SWL MAR 13

PROJECT ID: 5605-00-72

COUNTY: GREEN

ORDER OF SHEETS

TOTAL SHEETS = 46

N

DESIGN DESIGNATION

A.A.D.T. 2013	=	1,300
A.A.D.T. 2033	=	1,700
D.H.V. 2033	=	170
D.D.	=	60/40
T.	=	6.4%
DESIGN SPEED	=	55 MPH
ESALS	=	211,700

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

ALBANY-STH 92

(ALLEN CREEK BRIDGE B-23-0170)

CTH E

GREEN COUNTY

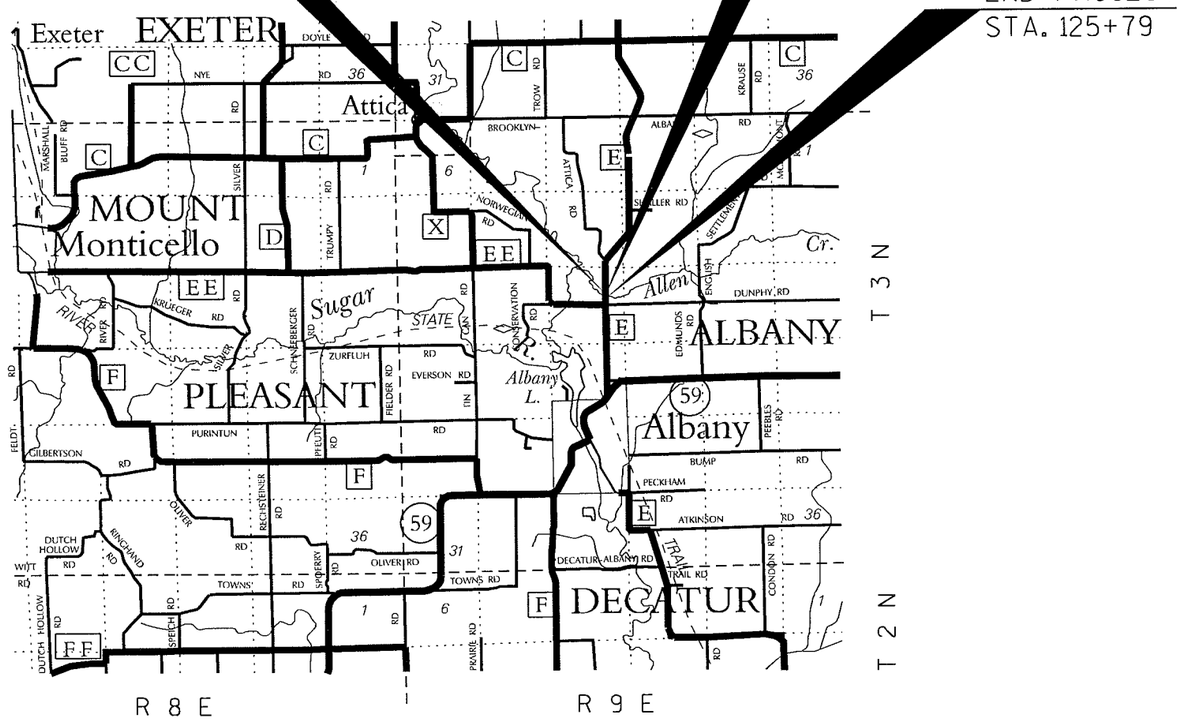
STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5605-00-72	———	—

STATE PROJECT NUMBER
5605-00-72

BEGIN PROJECT
STA. 121+56.50
Y= 667,199.25
X= 186,229.10

STRUCTURE B-23-170

END PROJECT
STA. 125+79



LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE =0.080 MI.

-"COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), GREEN COUNTY."

ACCEPTED FOR

COUNTY of GREEN

9/27/2012 (Date) (Highway Commissioner)

ORIGINAL PLANS PREPARED BY

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL • REMEDIATION
DEVELOPMENT • ENVIRONMENTAL
2901 International Lane, Suite 309 Madison, WI 53704-3133
608-242-7779 1-800-446-0679 Fax: 608-242-5664

WISCONSIN
MICHAEL J. STATZ
E-31249
MADISON
WI
PROFESSIONAL ENGINEER

9-24-12 (Date) (Professional Engineer)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

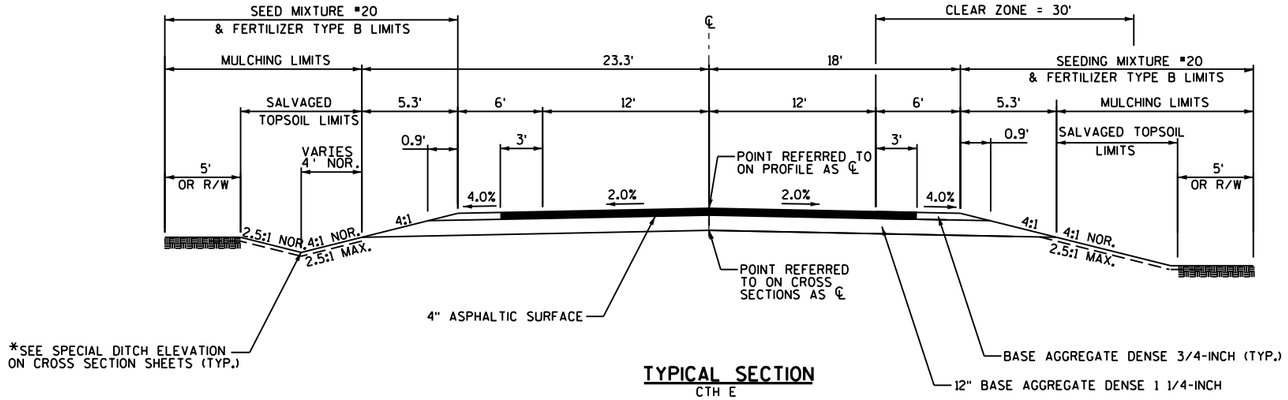
PREPARED BY

Surveyor	MSA PROFESSIONAL SERVICES
Designer	MSA PROFESSIONAL SERVICES
Management Consultant	KJOHNSON ENGINEERS, INC.
C.O. Examiner	JE

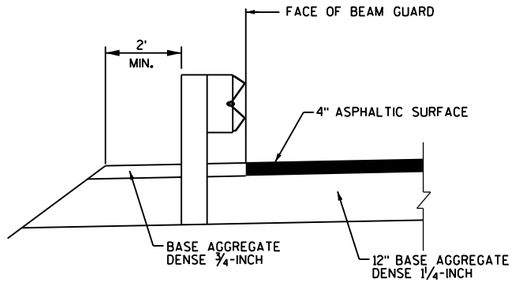
APPROVED FOR DEPARTMENT

DATE: 10/5/12 (Management Consultant Signature)

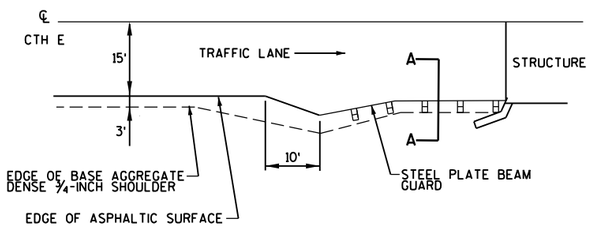
E



TYPICAL SECTION
CTH E



SECTION A-A THRU BEAM GUARD



PLAN - ASPHALTIC PAVEMENT
SHOULDER AT BEAM GUARD

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = 1.32 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.77 ACRES

GENERAL NOTES

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS SHALL BE FERTILIZED, SEEDED AND MULCHED AS DIRECTED BY THE ENGINEER.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE AREA THAT ARE NOT SHOWN.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO NAVD88 BENCHMARK NO. 1, LOCATED APPROXIMATELY 400 FEET SOUTH OF THE EXISTING BRIDGE. A BRONZE WISDOT GEODETIC SURVEY CONTROL STATION "1H27", ELEVATION 818.15 NAVD 88.

THE DEPARTMENT OF TRANSPORTATION WILL FURNISH A BENCHMARK MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

THE 4" ASPHALTIC SURFACE SHALL BE CONSTRUCTED USING A 2 ¼" LOWER LAYER OF 19 MM NOMINAL SIZE AGGREGATE AND A 1 ¾" UPPER LAYER OF 12.5 MM NOMINAL SIZE AGGREGATE.

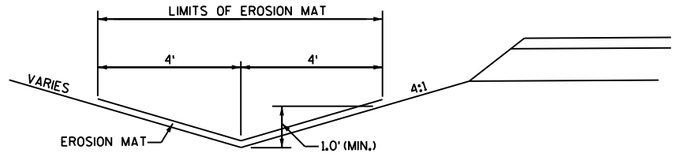
SILT FENCE TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO BRIDGE REMOVAL.

TEMPORARY DITCH CHECKS, IF NEEDED, SHALL BE PLACED AS DIRECTED BY THE ENGINEER.

WETLANDS EXIST FROM STA. 120+09 TO STA. 123+20, RT & LT. THE CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE THE SLOPE INTERCEPT IN THESE AREAS.

PRIOR TO THE PLACEMENT OF STEEL PLATE BEAM GUARD, THE SHOULDERS SHALL BE IN PLACE, SHAPED, AND COMPACTED.

SLOPES STEEPER THAN 3:1 REQUIRE EROSION MAT.



EROSION MAT DITCH DETAIL

DESIGN CONTACT

MSA PROFESSIONAL SERVICES, INC.
ATTN: MICHAEL J. STATZ, P.E.
2901 INTERNATIONAL LANE, SUITE 300
MADISON, WI 53704-3133
PHONE: (608) 242-7779
EMAIL: MSTATZ@MSA-PS.COM

GREEN COUNTY
ATTN: JEFF WUNSCHEL, COMMISSIONER
2813 6TH STREET
P.O. BOX 259
MONROE, WI 53566
PHONE: (608) 328-9411
EMAIL: JWUNSCHEL@GREENCOUNTYWI.ORG

DNR LIAISON

DEPARTMENT OF NATURAL RESOURCES
ATTN.: AMANDA CUSHMAN
ENVIRONMENTAL REVIEW AND ANALYSIS SPECIALIST
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711-5397
PHONE: (608) 275-3485
EMAIL: AMANDA.CUSHMAN@WISCONSIN.GOV

UTILITIES

ELECTRIC:
ALLIANT ENERGY
ATTN: STEVE LARSON
1915 STH 69
MONROE, WI 53818
PHONE: (608) 328-5339
EMAIL: STEVELARSON@ALLIANTENERGY.COM

TELEPHONE:
TDS TELECOM
ATTN: DAREN NEUENSCHWANDER
827 16TH AVENUE
P.O. BOX 88
MONROE, WI 53566
PHONE: (608) 328-1158
EMAIL: DAREN.NEUENSCHWANDER@TDSELECOM.COM

**-DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

DIGGERS HOTLINE
Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

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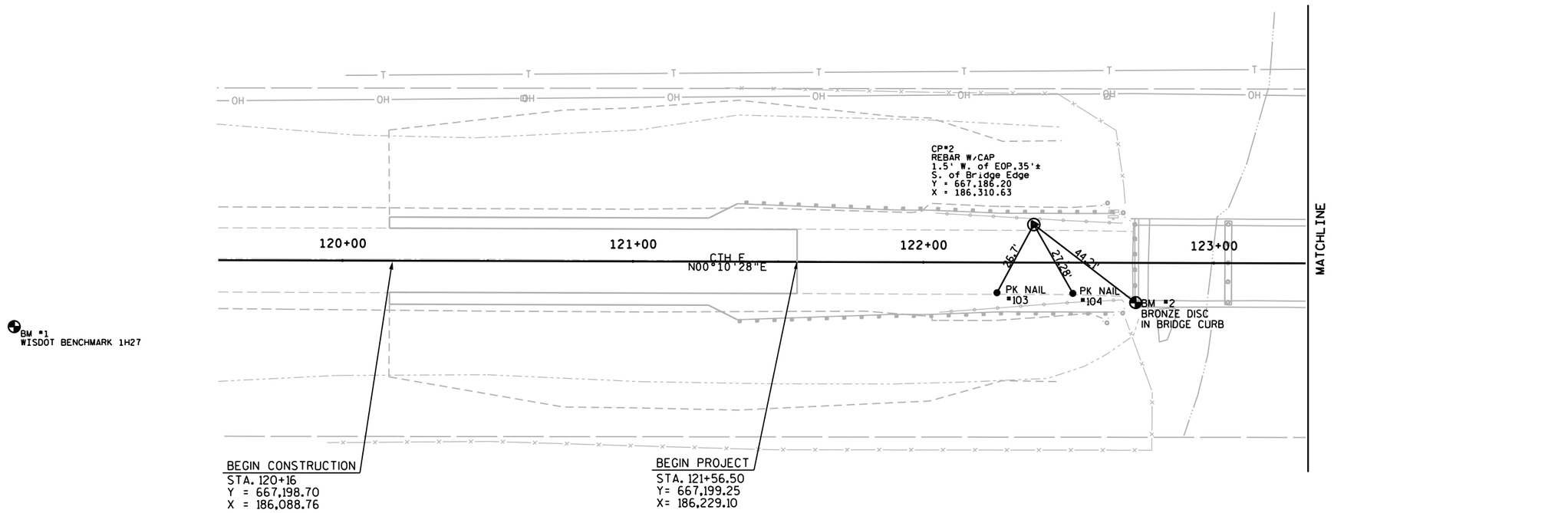
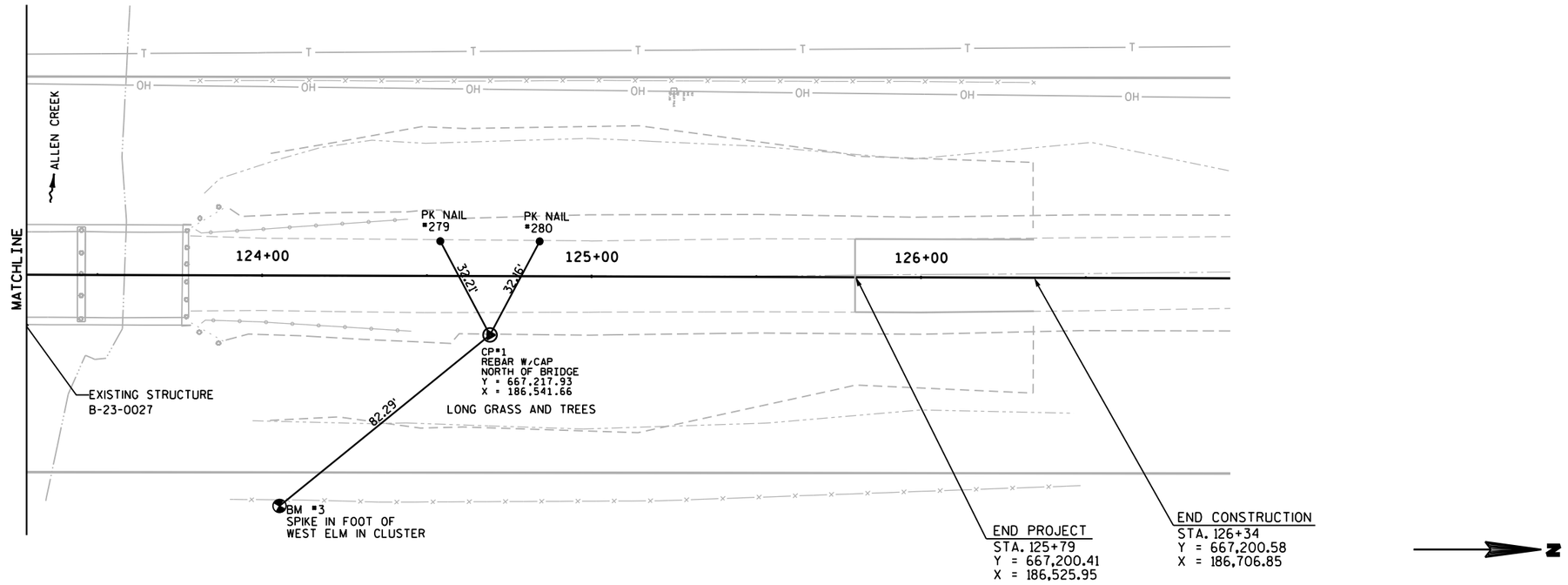




PROJECT NO: 5605-00-72	HWY: CTH E	COUNTY: GREEN	CONTROL POINT TIES AND ALIGNMENT DIAGRAM	SHEET 3	E

DATE 09JAN13 — E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	5605-00-72 QUANTITY
0010	203.0700.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH DEBRIS CAPTURE SYSTEM (STATION) 01. 123+25	LS	1.000	1.000
0020	205.0100	EXCAVATION COMMON	CY	769.000	769.000
0030	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-23-0170	LS	1.000	1.000
0040	208.0100	BORROW	CY	865.000	865.000
0050	210.0100	BACKFILL STRUCTURE	CY	260.000	260.000
0060	213.0100	FINISHING ROADWAY (PROJECT) 01. 5605-00-72	EACH	1.000	1.000
0070	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	125.000	125.000
0080	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	1,500.000	1,500.000
0090	311.0110	BREAKER RUN	TON	260.000	260.000
0100	455.0605	TACK COAT	GAL	35.000	35.000
0110	465.0105	ASPHALTIC SURFACE	TON	320.000	320.000
0120	502.0100	CONCRETE MASONRY BRIDGES	CY	422.000	422.000
0130	502.3200	PROTECTIVE SURFACE TREATMENT	SY	610.000	610.000
0140	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	8,720.000	8,720.000
0150	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	57,660.000	57,660.000
0160	513.4060	RAILING TUBULAR TYPE M (STRUCTURE) 01. B-23-0170	LS	1.000	1.000
0170	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	14.000	14.000
0180	550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	1,360.000	1,360.000
0190	606.0300	RIPRAP HEAVY	CY	200.000	200.000
0200	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	140.000	140.000
0210	614.0920	SALVAGED RAIL	LF	260.000	260.000
0220	614.2300	MGS GUARDRAIL 3	LF	150.000	150.000
0230	614.2500	MGS THRIE BEAM TRANSITION	LF	158.000	158.000
0240	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	4.000	4.000
0250	619.1000	MOBILIZATION	EACH	1.000	1.000
0260	625.0500	SALVAGED TOPSOIL **P**	SY	2,050.000	2,050.000
0270	627.0200	MULCHING **P**	SY	1,870.000	1,870.000
0280	628.1504	SILT FENCE	LF	1,400.000	1,400.000
0290	628.1520	SILT FENCE MAINTENANCE	LF	2,800.000	2,800.000
0300	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	2.000	2.000
0310	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000	2.000
0320	628.2004	EROSION MAT CLASS I TYPE B	SY	500.000	500.000
0330	628.2006	EROSION MAT URBAN CLASS I TYPE A	SY	50.000	50.000
0340	628.6005	TURBIDITY BARRIERS	SY	160.000	160.000
0350	628.7504	TEMPORARY DITCH CHECKS	LF	50.000	50.000
0360	628.7560	TRACKING PADS	EACH	2.000	2.000
0370	629.0210	FERTILIZER TYPE B **P**	CWT	2.000	2.000
0380	630.0120	SEEDING MIXTURE NO. 20 **P**	LB	100.000	100.000
0390	630.0200	SEEDING TEMPORARY **P**	LB	25.000	25.000
0400	631.1100	SOD EROSION CONTROL	SY	50.000	50.000
0410	634.0612	POSTS WOOD 4X6-INCH X 12-FT	EACH	4.000	4.000
0420	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	1.000	1.000
0430	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	1.000	1.000
0440	637.0202	SIGNS REFLECTIVE TYPE II	SF	27.000	27.000
0450	638.2602	REMOVING SIGNS TYPE II	EACH	1.000	1.000
0460	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	2.000	2.000
0470	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0480	643.0100	TRAFFIC CONTROL (PROJECT) 01. 5605-00-72	EACH	1.000	1.000
0490	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	390.000	390.000

3

DATE 09JAN13 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	5605-00-72 QUANTITY
0500	646.0103	PAVEMENT MARKING PAINT 4-INCH	LF	2,081.000	2,081.000
0510	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	494.000	494.000
0520	650.5000	CONSTRUCTION STAKING BASE	LF	494.000	494.000
0530	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-23-0170	LS	1.000	1.000
0540	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 5605-00-72	LS	1.000	1.000
0550	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	494.000	494.000
0560	690.0150	SAWING ASPHALT	LF	435.000	435.000
0570	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	2,532.000	2,532.000

EARTHWORK PROJECT I.D. 5605-00-72

Division	From / To Station	Location	Common Excavation (1) (item # 205.0100)		Salvaged / Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate + / - (14)	Waste	Borrow	Comment:
			Cut (2)	EBS Excavation (3)				Factor 1.25			(item #208.0100)	
1	120+16 - 122+63	SOUTH CTH E	290	0	0	290	914	1142	-852	-852	852	
2	123+87 -126+34	NORTH CTH E	351	0	0	351	291	364	-13	-13	13	
	STRUCTURE B-23-170		0	0	0	0	0	0	0	0	0	
	UNDISTRIBUTED EBS		0	128	0	0	0	0	0	0	0	
			641	128	0	641	1205	1506	-865	-865	865	
Grand Total			641	128	0	641	1205	1506	-865	-865	865	
			769									

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Breaker Run material.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusable Pavement Material
6) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

BASE AGGREGATE DENSE

CATEGORY	STATION	TO STATION	LOCATION	(305.0110) 3/4-INCH TON	(305.0120) 1 1/4-INCH TON
0010	120+16	122+63	RT & LT	50	630
	123+87	126+34	RT & LT	75	870
	PROJECT TOTALS			**125**	**1,500**

BREAKER RUN

CATEGORY	STATION	TO STATION	(311.0110) TON
0010	UNDISTRIBUTED		260
	PROJECT TOTAL		**260**

ASPHALTIC SURFACE

CATEGORY	STATION	TO STATION	(455.0605) TACK COAT GAL	(465.0105) TON
0010	120+16	122+63	15	130
	123+87	126+34	20	190
	PROJECT TOTALS		**35**	**320**

SAWING ASPHALT

CATEGORY	STATION	TO STATION	LOCATION	(690.0150) LF
0010	120+16	121+56.5	LT & RT	281
	121+56.5		LT & RT	22
	125+79		LT & RT	22
	125+79	126+34	LT & RT	110
	PROJECT TOTAL			**435**

STEEL PLATE BEAM GUARD

CATEGORY	STATION	TO STATION	LOCATION	(614.2300) MGS GUARDRAIL 3 LF	(614.2500) MGS THRIE BEAM TRANSTION LF	(614.2610) MGS GUARDRAIL TERMINAL EAT EACH
0010	121+36	121+89	LT	-	-	1
	121+89	122+27	LT	37.5	-	-
	122+27	122+66	LT	-	39.5	-
	121+36	121+89	RT	-	-	1
	121+89	122+27	RT	37.5	-	-
	122+27	122+66	RT	-	39.5	-
	123+84	124+23	LT	-	39.5	-
	124+23	124+61	LT	37.5	-	-
	124+61	125+14	LT	-	-	1
	123+84	124+23	RT	-	39.5	-
	124+23	124+61	RT	37.5	-	-
	124+61	125+14	RT	-	-	1
	PROJECT TOTALS			**150**	**158**	**4**

SALVAGED RAIL

CATEGORY	STATION	TO STATION	LOCATION	(614.0920) LF
0010	122+04	122+69	LT	65
	122+04	122+69	RT	65
	123+80	124+45	LT	65
	123+80	124+45	RT	65
	PROJECT TOTAL			**260**

MOBILIZATIONS EROSION CONTROL

CATEGORY	DESCRIPTION	(628.1905) EACH	(628.1910) EMERGENCY EACH
0010	PROJECT 5605-00-72	2	2
	PROJECT TOTALS	**2**	**2**

SILT FENCE

CATEGORY	STATION	STATION	LOCATION	(628.1504) LF	(628.1520) MAINTENANCE LF
0010	120+16	122+83	LT	320	640
	120+16	122+83	RT	320	640
	123+69	126+34	LT	305	610
	123+69	126+34	RT	315	630
	UNDISTRIBUTED			140	280
	PROJECT TOTALS			**1,400**	**2,800**

EROSION MAT

CATEGORY	STATION	STATION	LOCATION	(628.2004) CLASS I TYPE B SY	(628.2006) URBAN CLASS 1 TYPE A SY
0010	120+76	122+47	LT	230	-
	120+76	122+47	RT	190	-
	124+02	124+23	LT	30	-
	UNDISTRIBUTED			50	50
	PROJECT TOTALS			**500**	**50**

TEMPORARY DITCH CHECKS

CATEGORY	STATION	LOCATION	(628.7504) LF
0010	UNDISTRIBUTED		50
	PROJECT TOTAL		**50**

3

TURBIDITY BARRIERS

CATEGORY	STATION	LOCATION	(628.6005) SY
0010	123+12	LT/RT	80
	123+45	LT/RT	80
	PROJECT TOTALS		**160**

TRACKING PADS

CATEGORY	STATION	(628.7560) EACH
0010	121+56	1
	125+79	1
	PROJECT TOTALS	**2**

FINISHING ITEMS

CATEGORY	STATION	TO STATION	LOCATION	(625.0500) SALVAGED TOPSOIL SY	(627.0200) MULCHING SY	(629.0210) FERTILIZER TYPE B CWT	(630.0120) SEEDING MIXTURE NO. 20 LB	(630.0200) SEEDING TEMPORARY LB	(631.1100) SOD EROSION CONTROL SY
0010	120+16	122+63	LT	680	450	0.5	27	-	-
	120+16	122+63	RT	540	360	0.5	25	-	-
	123+87	126+34	LT	390	490	0.5	24	-	-
	123+87	126+34	RT	440	570	0.5	24	-	-
	UNDISTRIBUTED			0	0	0.0	0	25	50
	PROJECT TOTALS			**2,050**	**1,870**	**2.0**	**100**	**25**	**50**

PERMANENT SIGNING

CATEGORY	CODE	STATION	LOCATION	(637.0202) SIGNS REFLECTIVE TYPE II SF	(634.0612) POSTS WOOD 4x6-INCH 12-FT EACH	(634.0614) POSTS WOOD 4x6-INCH 14-FT EACH	(634.0616) POSTS WOOD 4x6-INCH 16-FT EACH
0010	D1-2	121+90	LT	15.0	-	1	1
	W5-52R	122+63	RT	3.0	1	-	-
	W5-52L	122+63	LT	3.0	1	-	-
	W5-52L	123+87	RT	3.0	1	-	-
	W5-52R	123+87	LT	3.0	1	-	-
	PROJECT TOTALS			**27.0**	**4**	**1**	**1**

REMOVING SIGNS TYPE II & REMOVING SMALL SIGN SUPPORTS

CATEGORY	STATION	LOCATION	(638.2602) REMOVING SIGNS TYPE II EACH	(638.3000) REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	122+65	LT	1	2	REMOVE ALBANY - MONTICELLO SIGN & SUPPORTS
	PROJECT TOTALS		**1**	**2**	

CONSTRUCTION STAKING

CATEGORY	STATION	TO STATION	LOCATION	(650.4500) SUBGRADE LF	(650.5000) BASE LF	(650.6500) STRUCTURE LAYOUT LS	(650.9910) SUPPLEMENTAL CONTROL LS	(650.9920) SLOPE STAKES LF
0010	120+16	122+63	LT & RT	247	247	-	-	247
	123+87	126+34	LT & RT	247	247	-	-	247
	PROJECT 5605-00-72			-	-	-	1	-
	CATEGORY 0010 SUBTOTALS			**494**	**494**	**0**	**1**	**494**
0020	STRUCTURE B-23-170			-	-	1	-	-
	CATEGORY 0020 SUBTOTALS			**0**	**0**	**1**	**0**	**0**
	PROJECT TOTALS			**494**	**494**	**1**	**1**	**494**

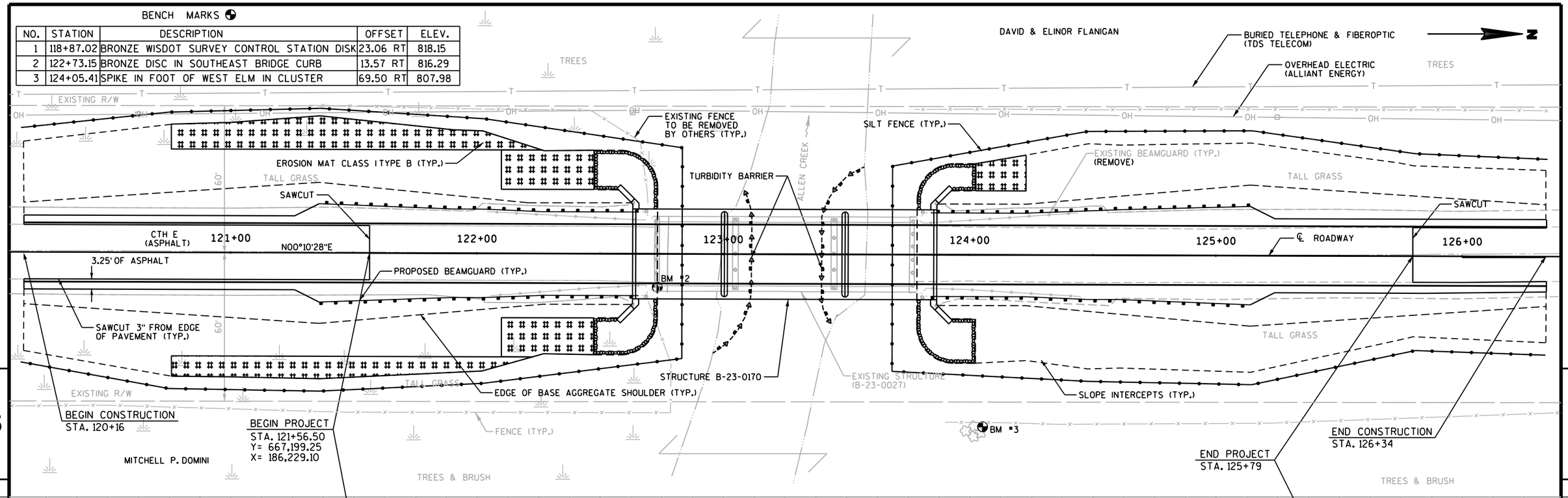
PAVEMENT MARKING PAINT 4-INCH

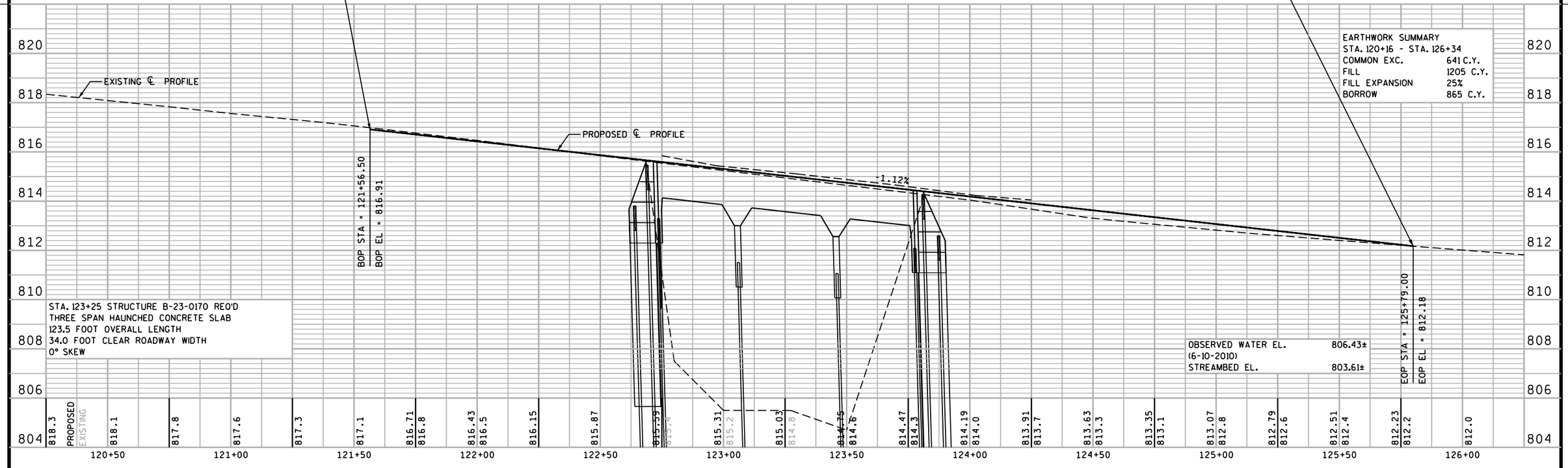
CATEGORY	STATION	STATION	LOCATION	(646.0103) YELLOW LF	(646.0103) WHITE LF	NOTES
0010	120+16	126+34	LT	-	618	SOLID WHITE EDGE LINE
	121+56.5	125+79	CENTERLINE	845	-	SOLID DOUBLE YELLOW CENTERLINE
	120+16	126+34	RT	-	618	SOILD WHITE EDGE LINE
	PROJECT SUBTOTALS			**845**	**1,236**	
	PROJECT TOTAL			**2,081**		

3

BENCH MARKS

NO.	STATION	DESCRIPTION	OFFSET	ELEV.
1	118+87.02	BRONZE WISDOT SURVEY CONTROL STATION DISK	23.06 RT	818.15
2	122+73.15	BRONZE DISC IN SOUTHEAST BRIDGE CURB	13.57 RT	816.29
3	124+05.41	SPIKE IN FOOT OF WEST ELM IN CLUSTER	69.50 RT	807.98





STA. 123+25 STRUCTURE B-23-0170 REO'D
THREE SPAN HAUNCHED CONCRETE SLAB
123.5 FOOT OVERALL LENGTH
34.0 FOOT CLEAR ROADWAY WIDTH
0° SKEW

EARTHWORK SUMMARY
STA. 120+16 - STA. 126+34

COMMON EXC.	641 C.Y.
FILL	1205 C.Y.
FILL EXPANSION	25%
BORROW	865 C.Y.

OBSERVED WATER EL. (6-10-2010)	806.43±
STREAMBED EL.	803.61±

PROJECT NO: 5605-00-72	HWY: CTH E	COUNTY: GREEN	PLAN AND PROFILE	SHEET 8	E

FILE NAME : P:\230s\239\00239020\CADD\Planshts\Plan and Profile.dgn PLOT DATE : 1/8/2013 PLOT BY : jmcadams PLOT NAME : PLOT SCALE : 1:40

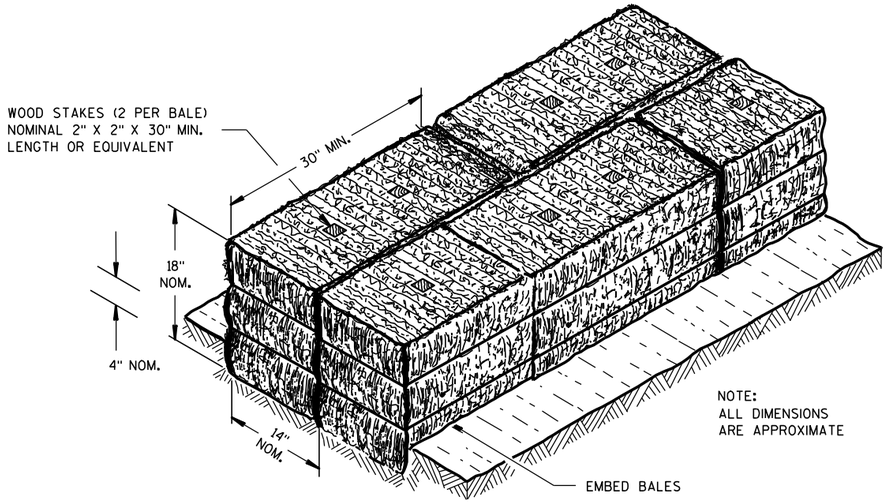
WISDOT/CADDS SHEET 30

Plan and Profile.dgn 1/8/2013 1:33:04 PM jmcadams

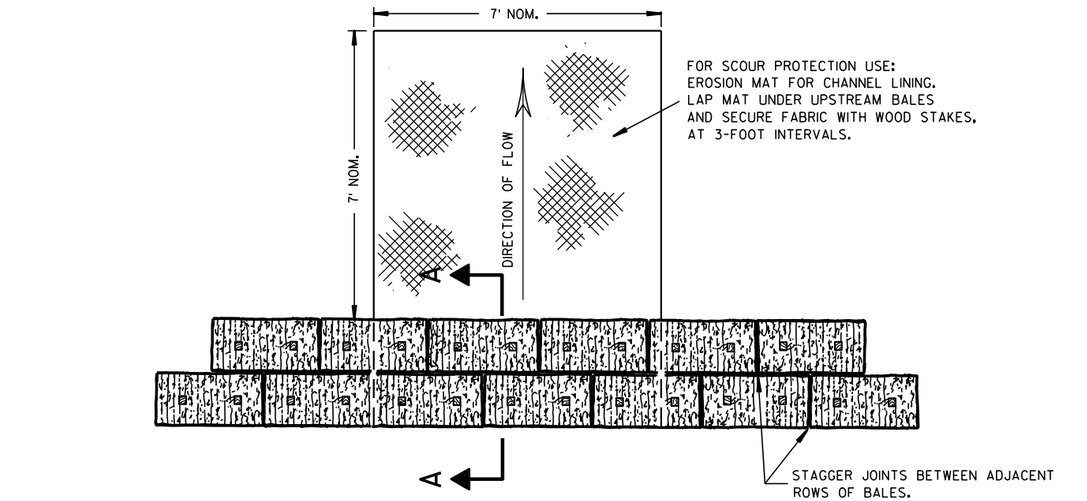
Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
12A03-10	NAME PLATE (STRUCTURES)
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-05	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-15A	PAVEMENT MARKING (MAINLINE)

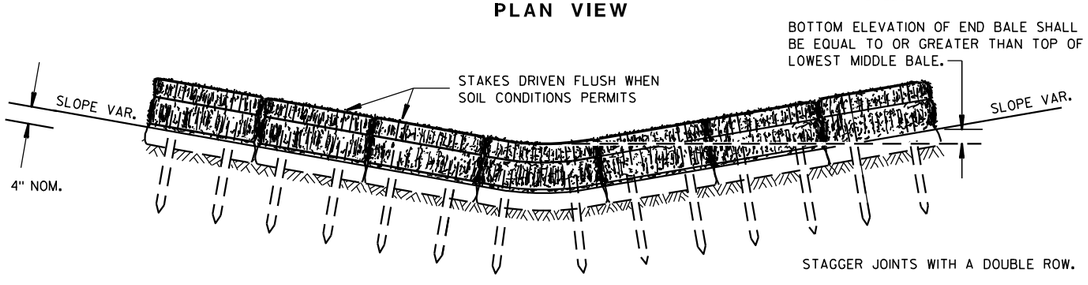
6



SECTION A-A



PLAN VIEW



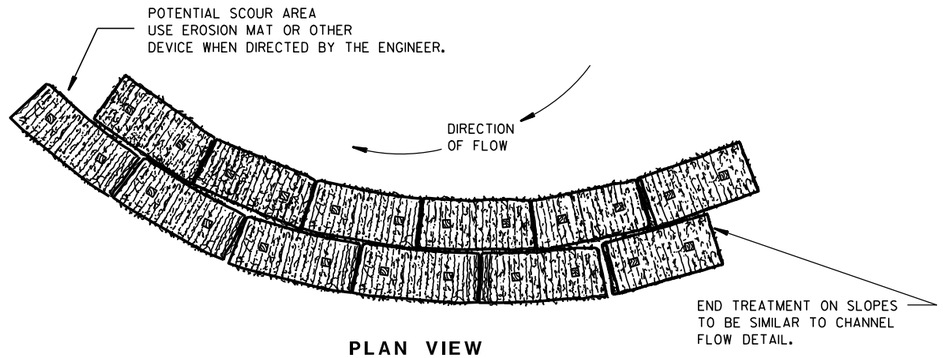
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

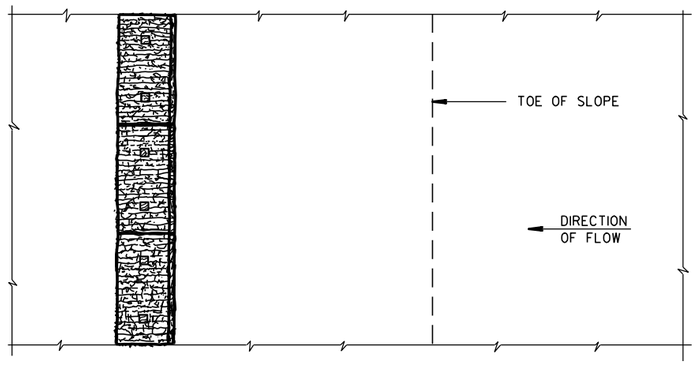
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

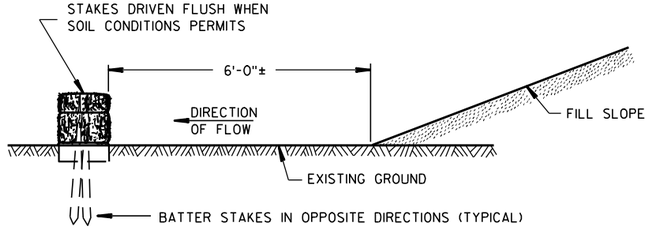


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

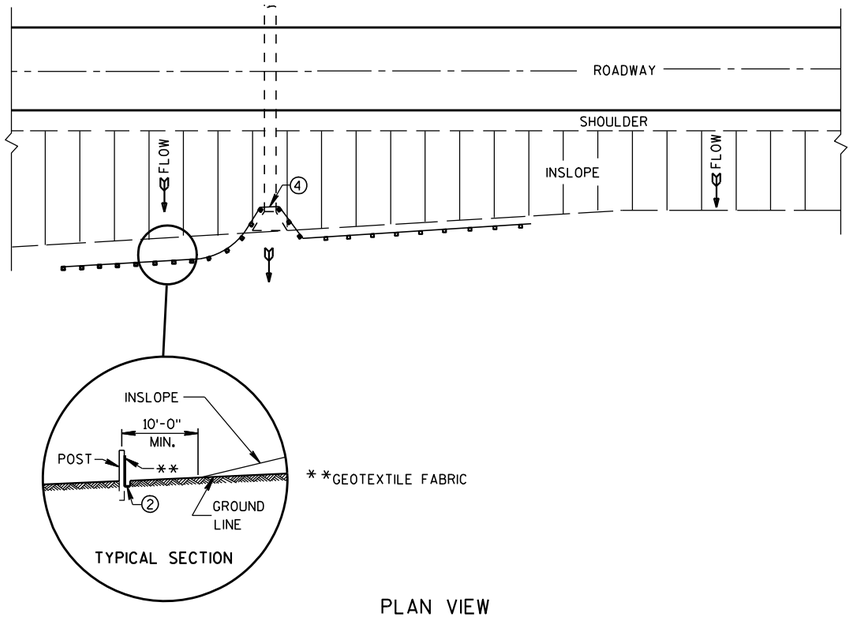
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

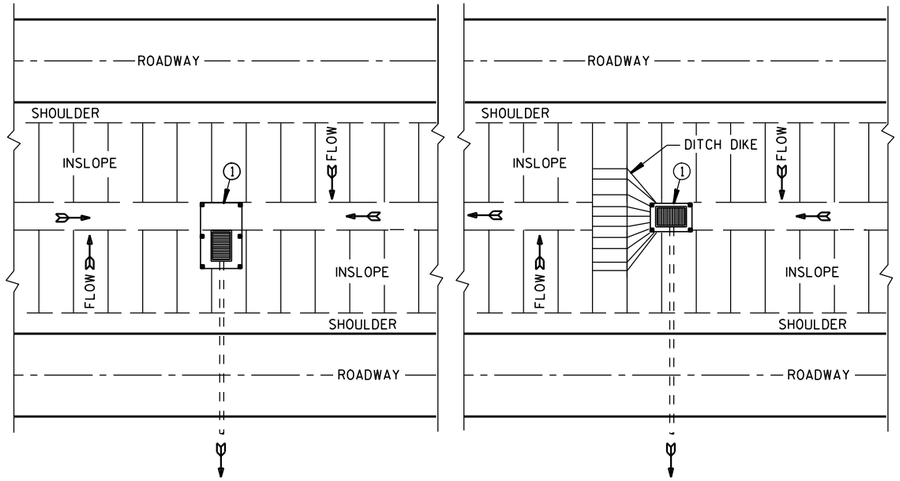
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

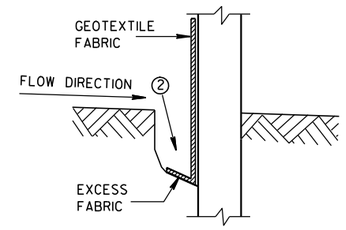
(1) HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

(2) FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

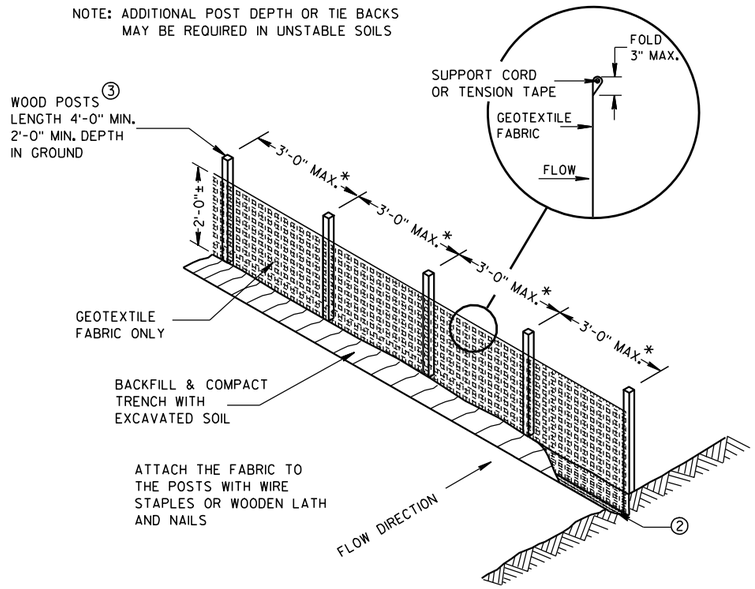
(3) WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

(4) SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

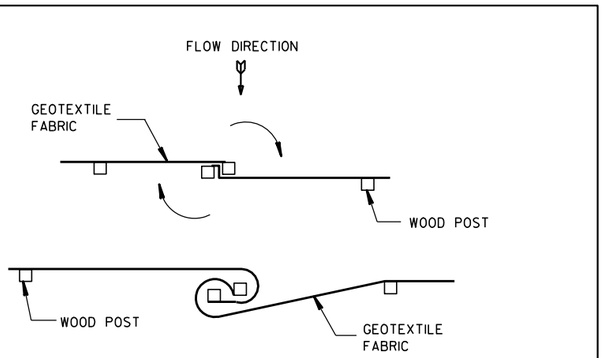
(5) CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



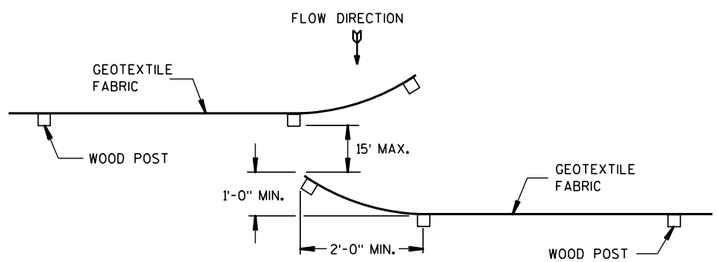
TRENCH DETAIL



SILT FENCE

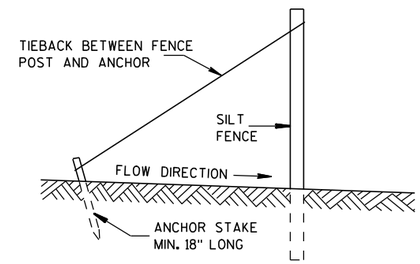


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE (5)



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

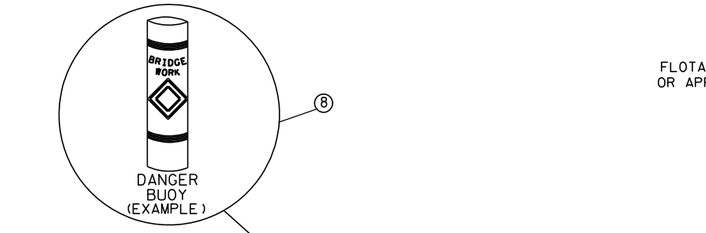
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

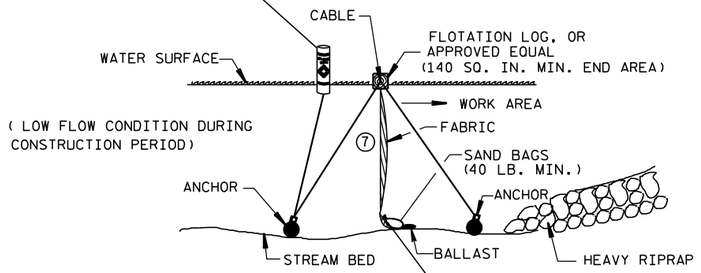
6

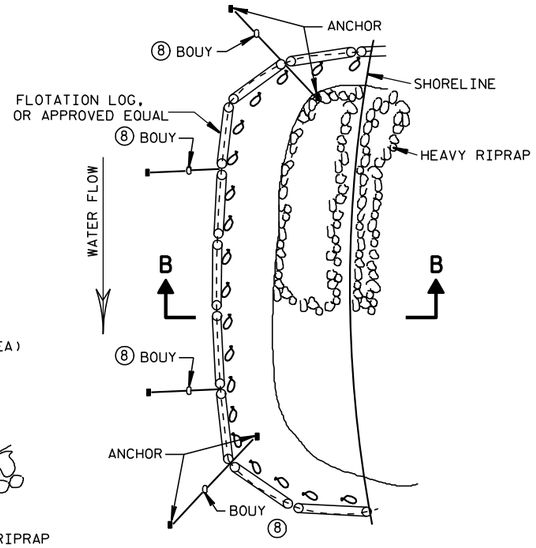
S.D.D. 8 E 9-6

6

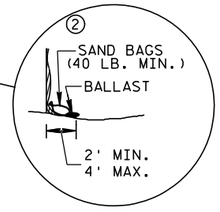
S.D.D. 8 E 9-6



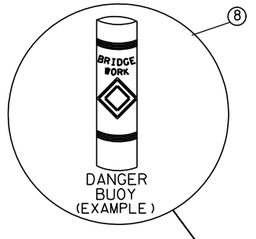


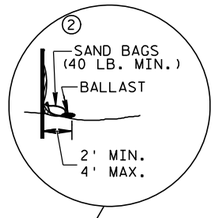


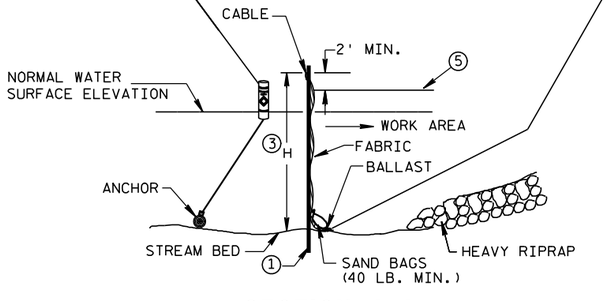
SECTION B-B



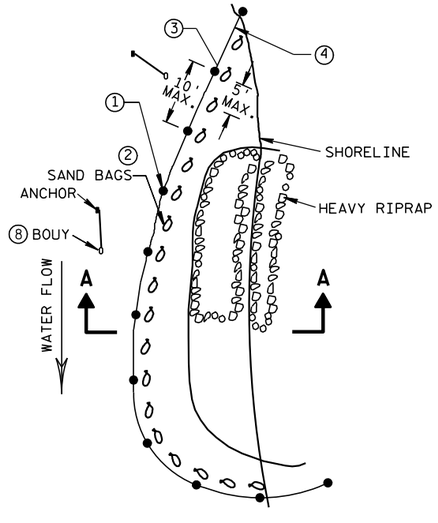
TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6







SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

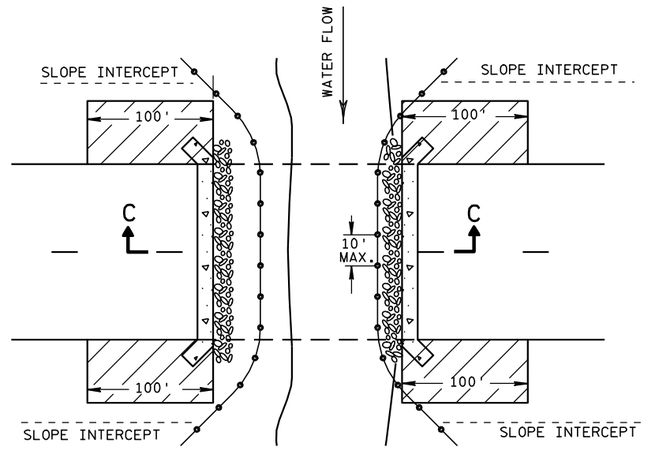
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

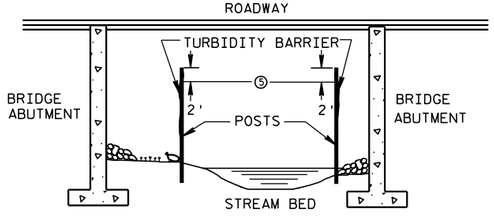
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

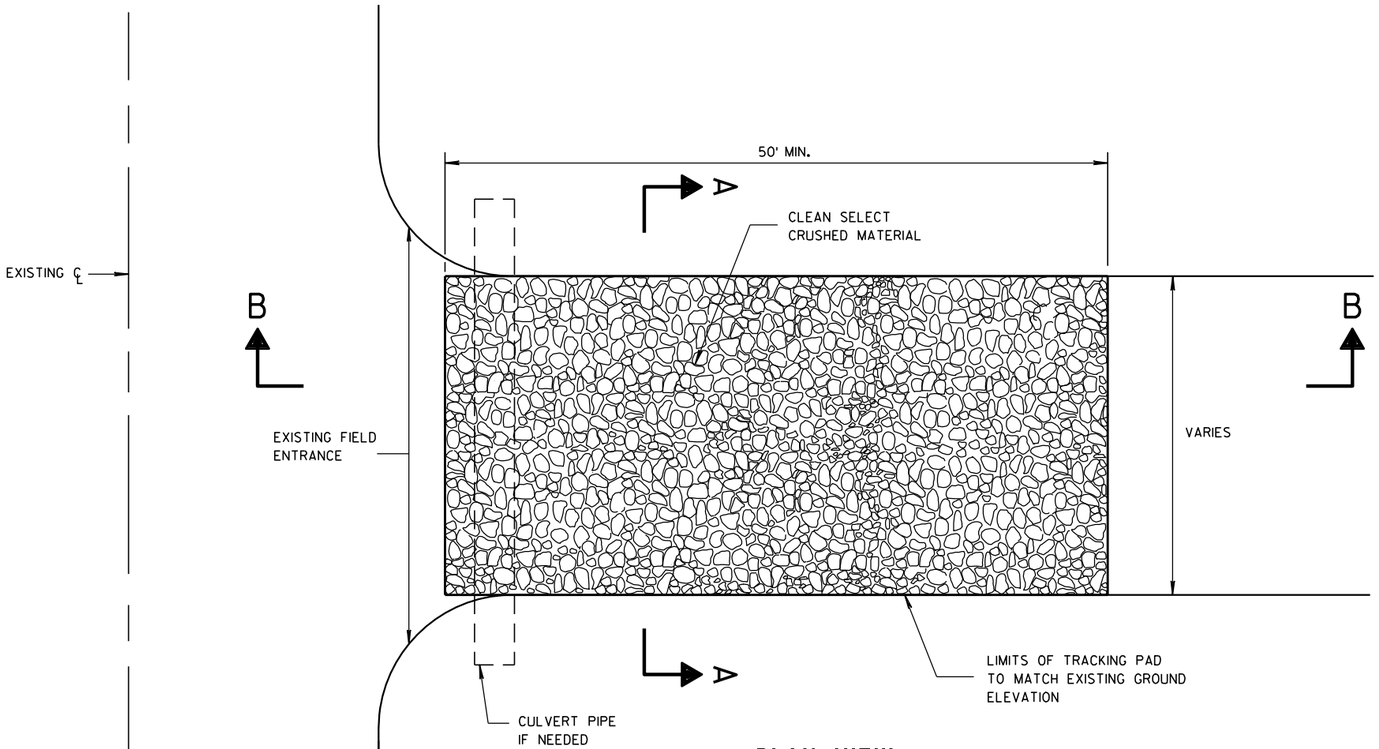
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

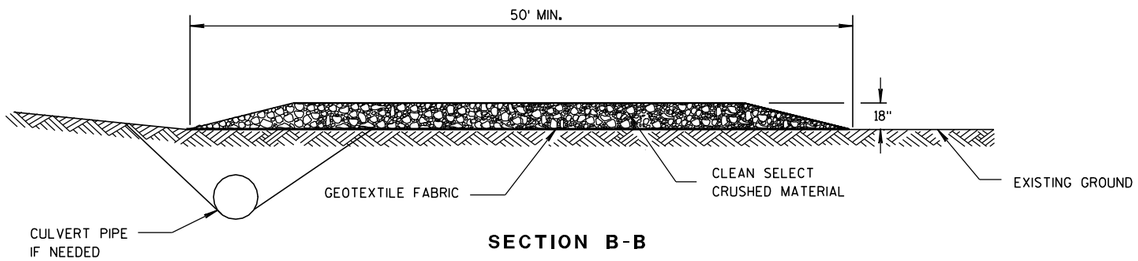
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 11-2



PLAN VIEW



SECTION B-B

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

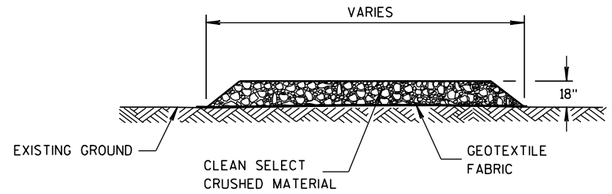
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.

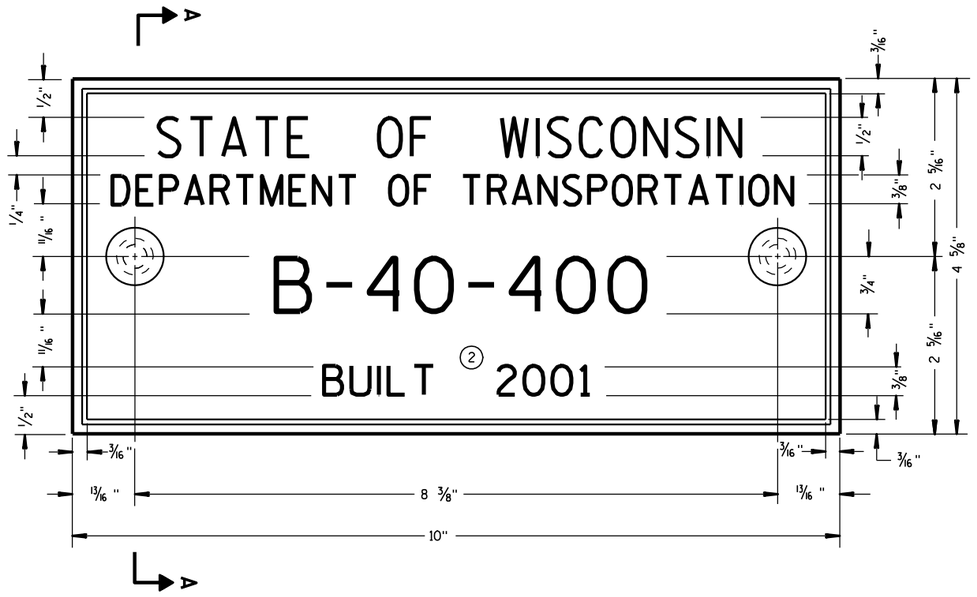


SECTION A-A

TRACKING PAD

TRACKING PAD	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 3/24/2011 DATE FHWA	/S/ Jerry H. Zoda ROADWAY STANDARDS ENGINEER
	13
	ENT

S.D.D. 8 E 14-1
6



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION MULTI-UNIT STRUCTURES

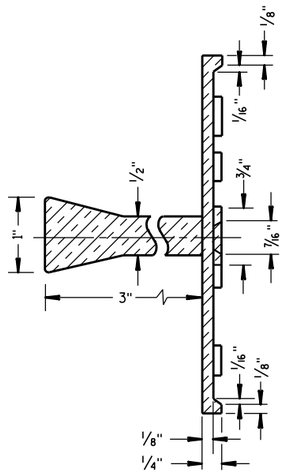
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

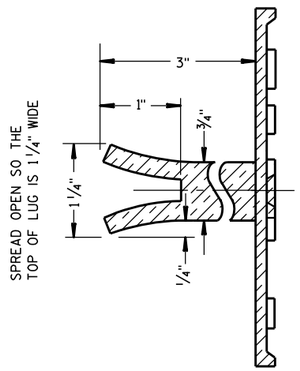
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

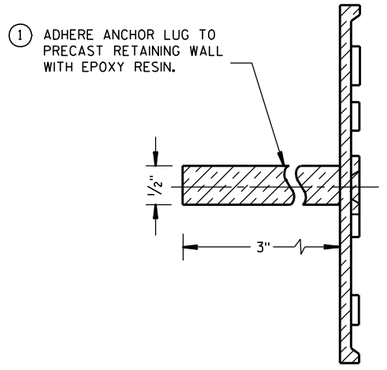
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

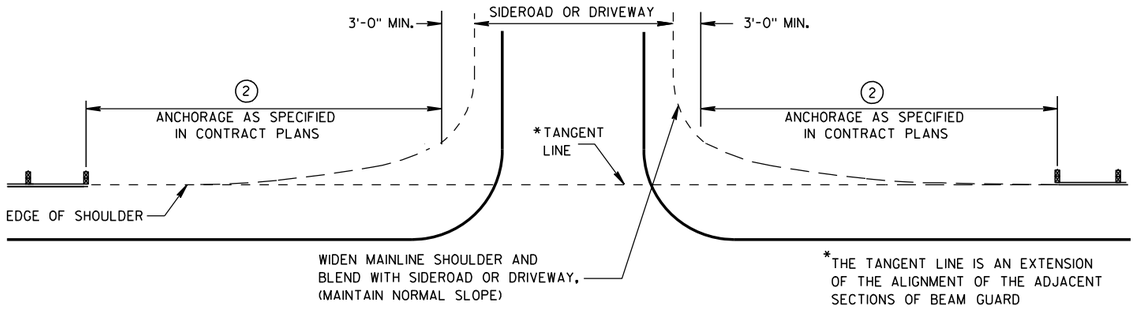
3/26/10 DATE

/S/ Scot Beck CHIEF STRUCTURAL DEVELOPMENT ENGINEER

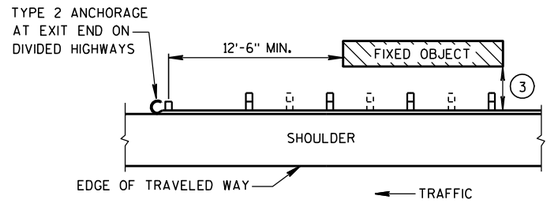
FHWA

6

S.D.D. 12 A 3-10



BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

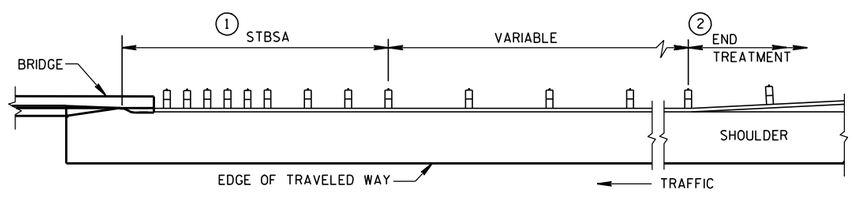
THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

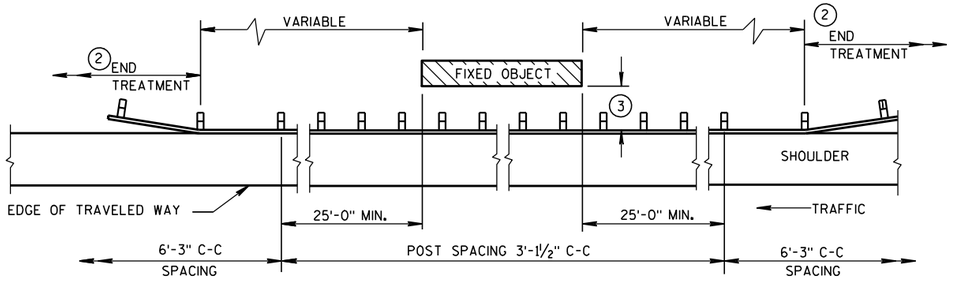
(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

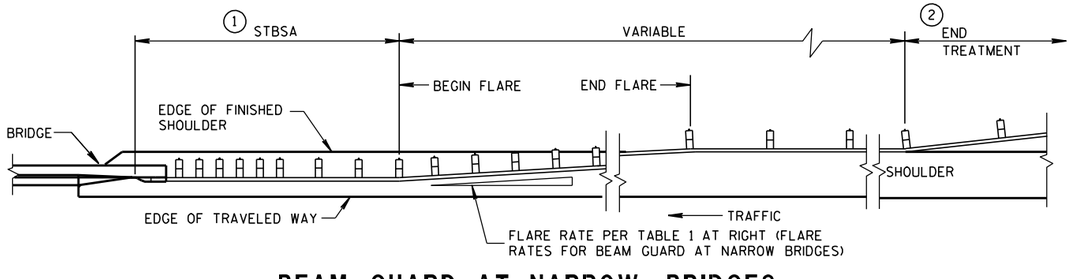


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")



BEAM GUARD AT NARROW BRIDGES
(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

STEEL PLATE BEAM GUARD CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-21-07 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 14 B 18-6a

GENERAL NOTES

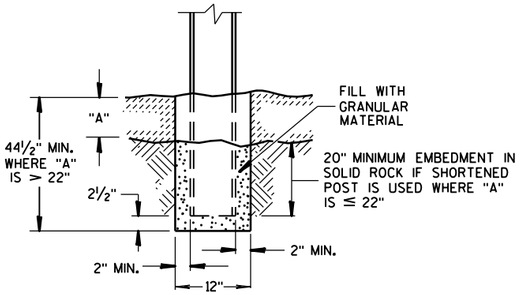
1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

2. USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

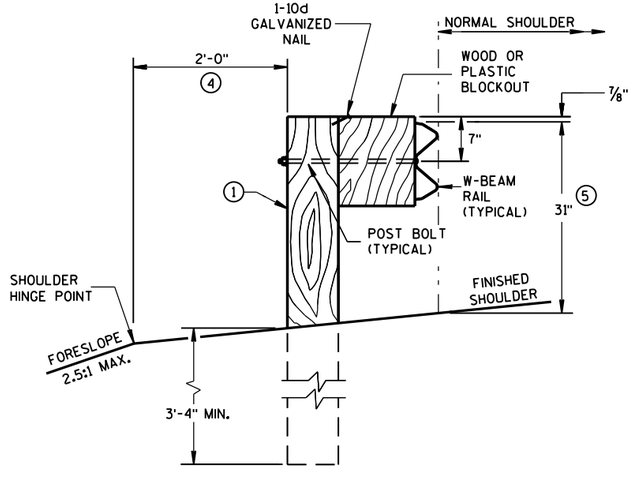
3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

4. WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

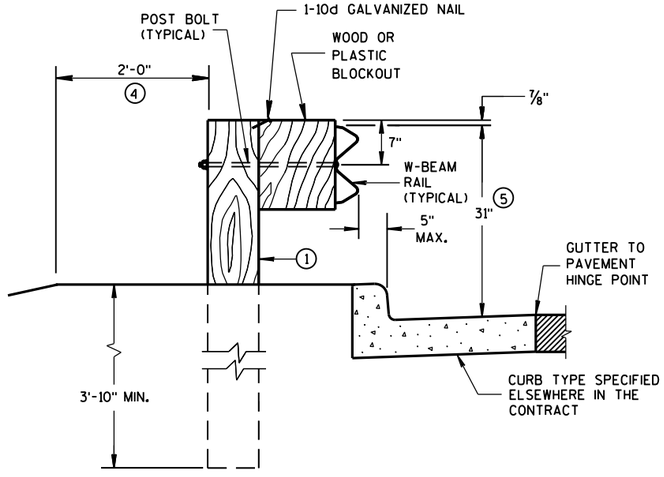


END VIEW
SETTING STEEL OR WOOD POST IN ROCK ③



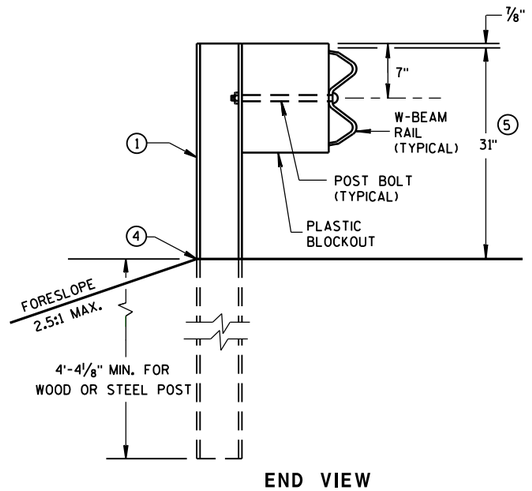
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



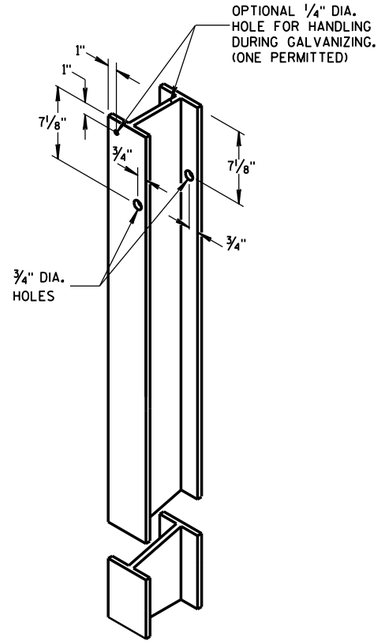
END VIEW

LOCATED ALONG A CURBED ROADWAY

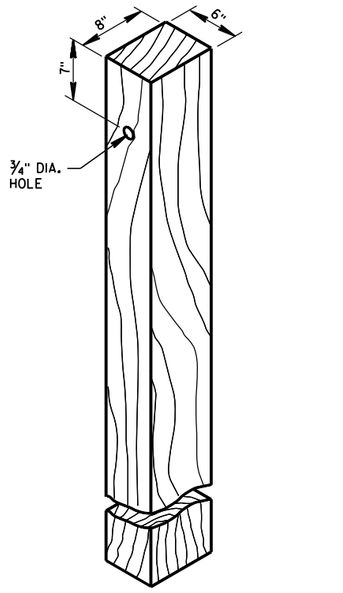


END VIEW

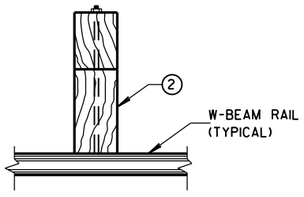
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



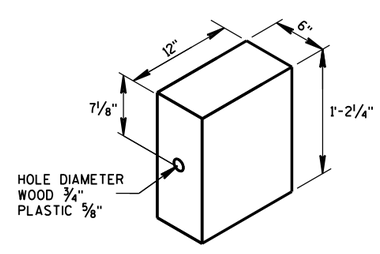
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



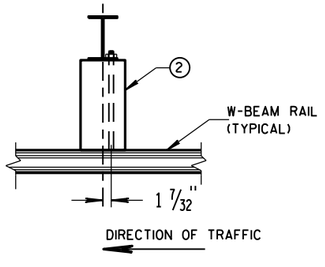
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②

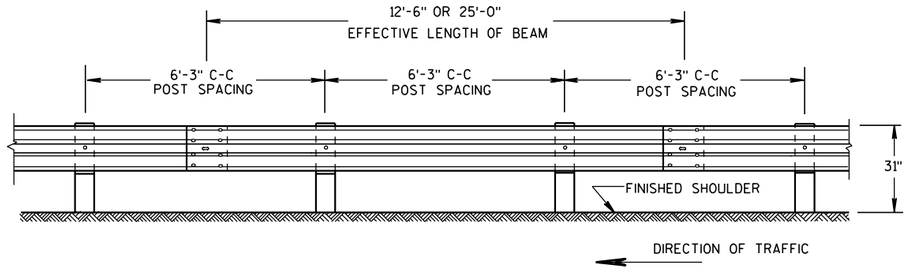


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

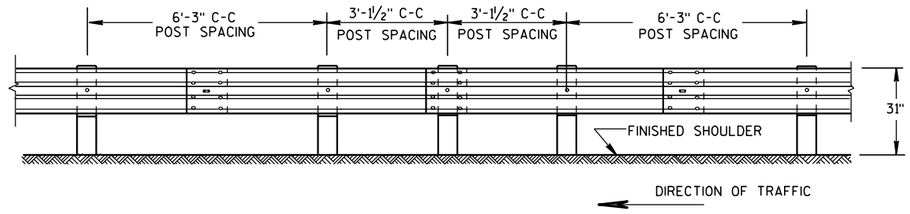
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 42-2a



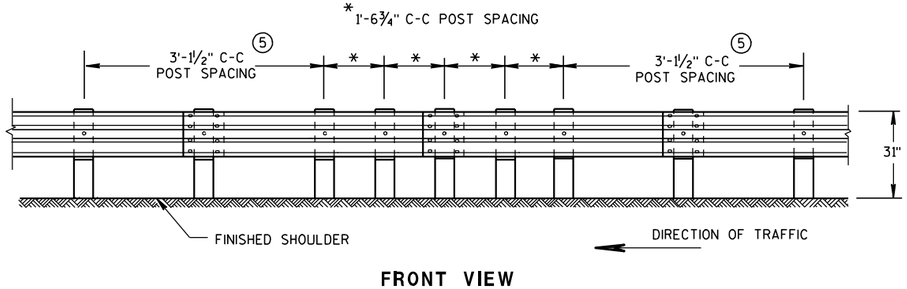
FRONT VIEW

POST SPACING STANDARD INSTALLATION



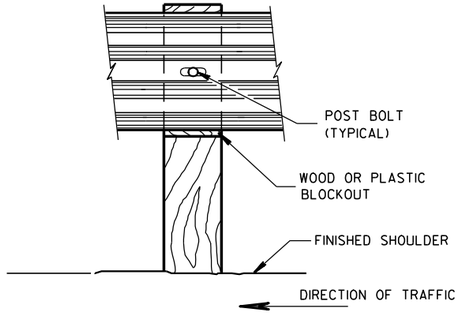
FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

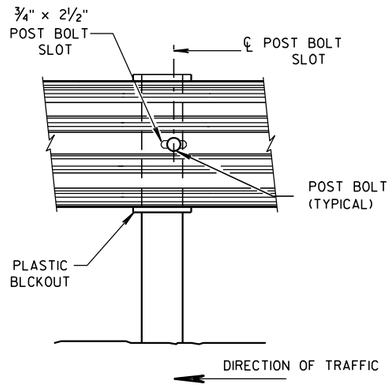


FRONT VIEW

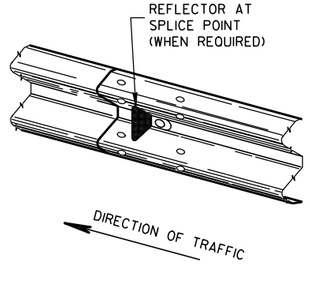
QUARTER POST SPACING (QS)

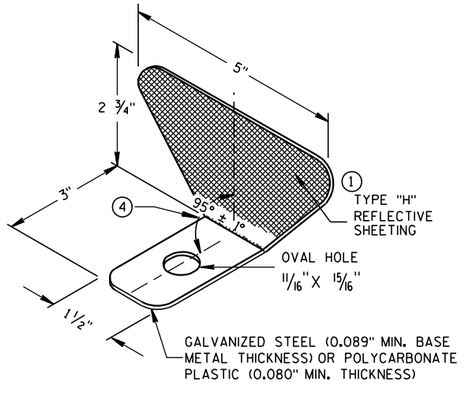


FRONT VIEW AT WOOD POST

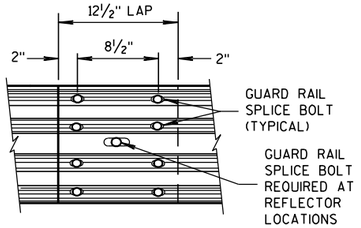


FRONT VIEW AT STEEL POST



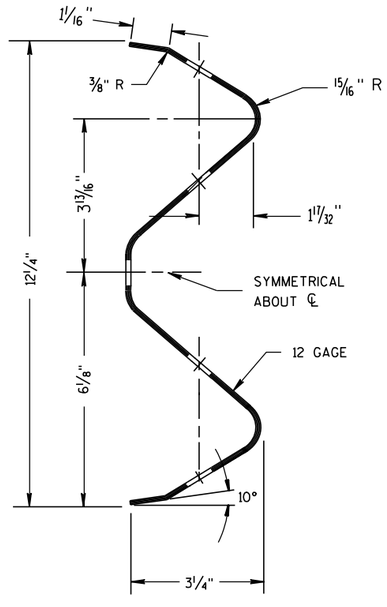


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ①



FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL

GENERAL NOTES

① PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.

② DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

③ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

④ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

⑤ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING ②

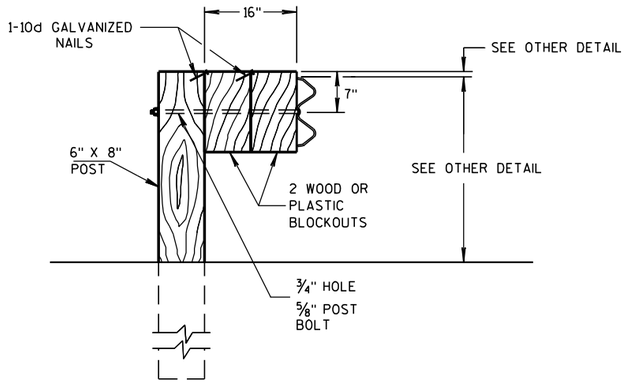
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 ③ 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 ④ 2	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

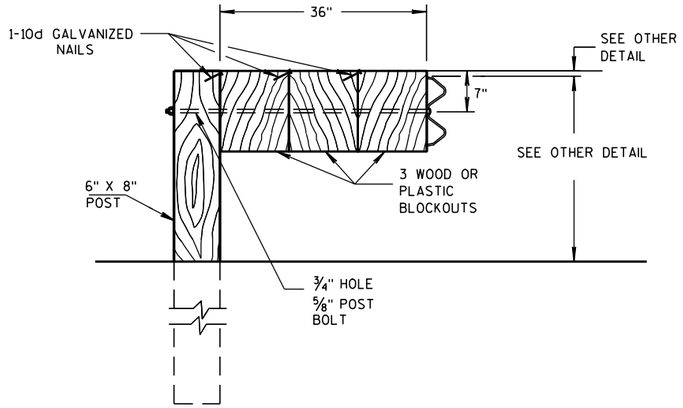
S.D.D. 14 B 42-2b

S.D.D. 14 B 42-2b



DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

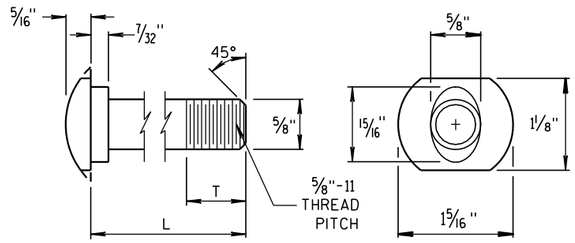


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

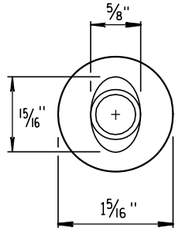
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

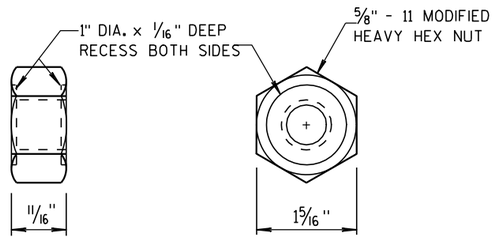


POST BOLT TABLE

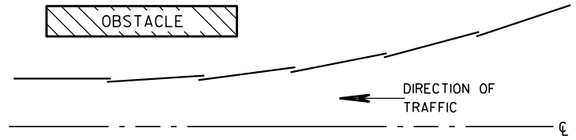
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

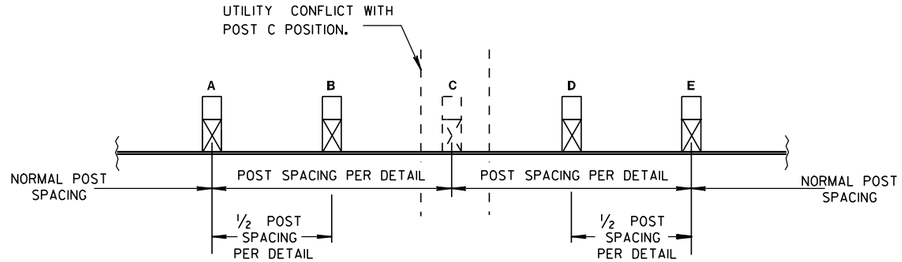


POST BOLT AND RECESS NUT

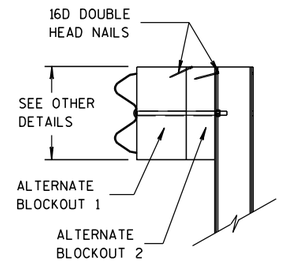


PLAN VIEW

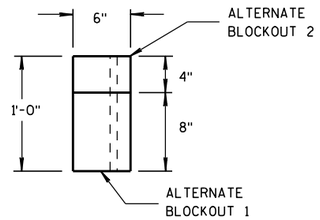
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/15/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA

ENT

6

S.D.D. 14 B 42-2c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL),AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

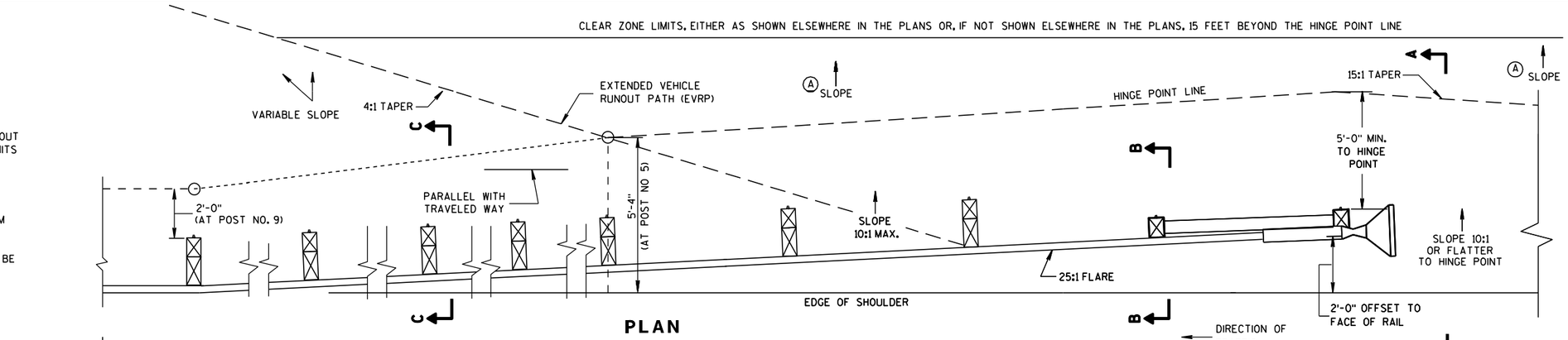
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

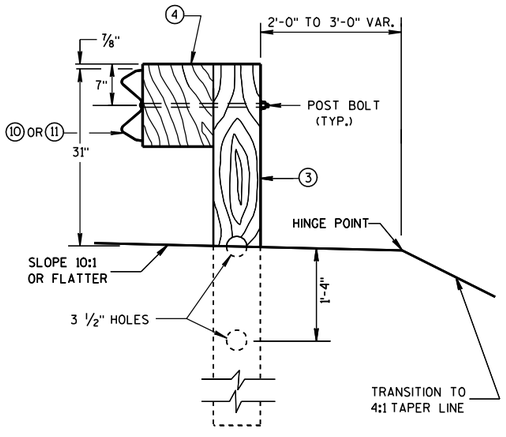
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

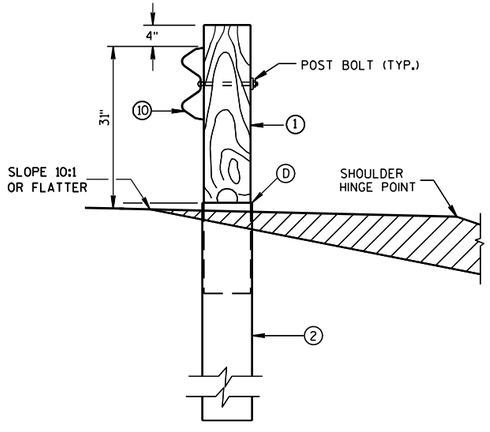
THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE (± ¾")



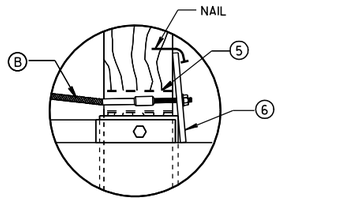
ELEVATION

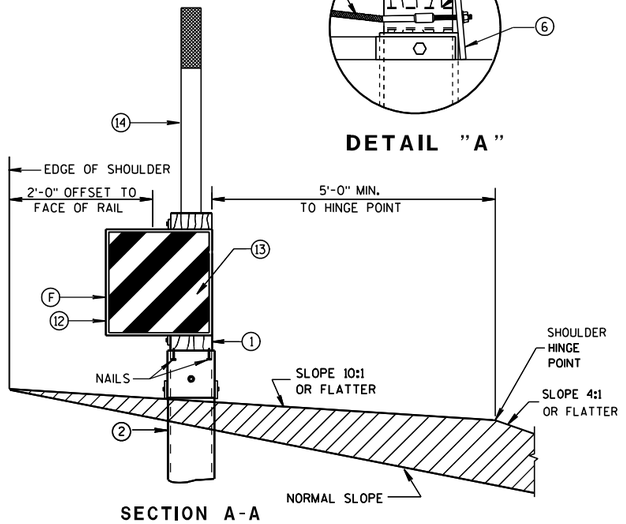


SECTION C-C
TYPICAL AT POST NOS. 3-9

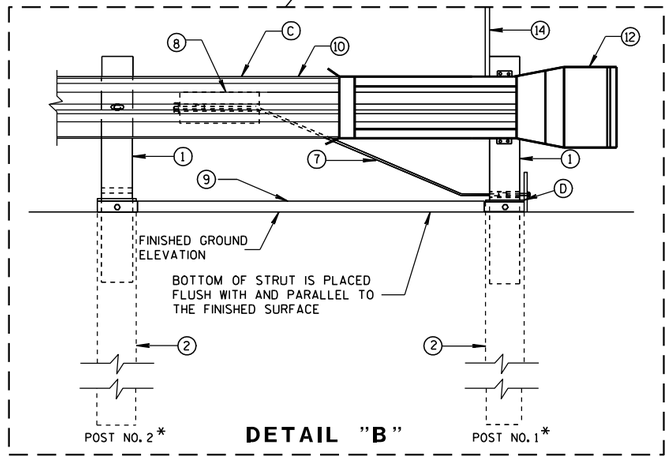


SECTION B-B
TYPICAL AT POST NO. 2*





SECTION A-A
TYPICAL AT POST NO. 1*

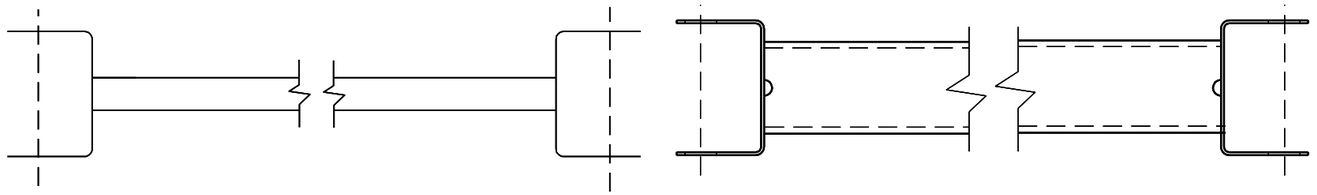


DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 44-1a

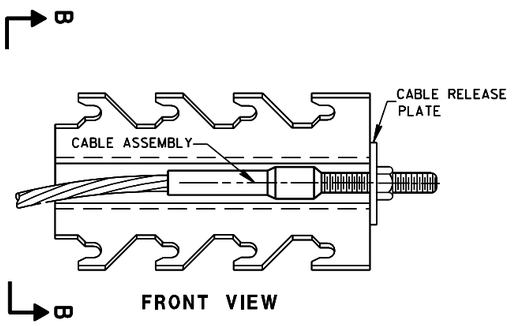


(9) (H)

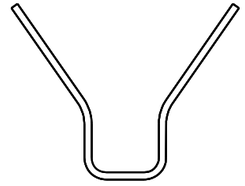
GENERIC GROUND STRUT

BILL OF MATERIALS

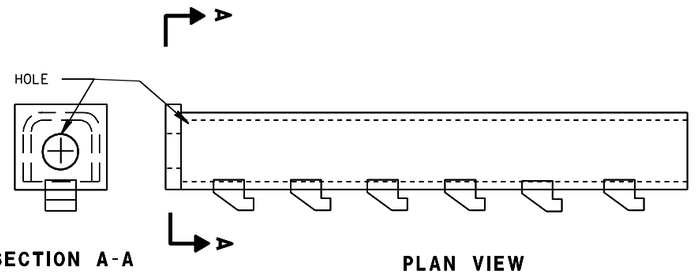
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



FRONT VIEW



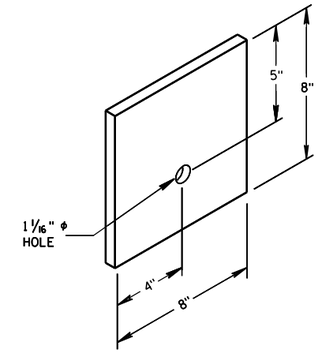
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



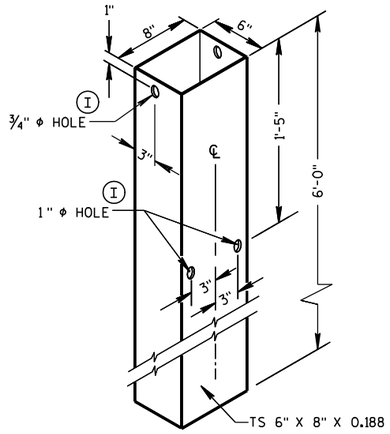
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

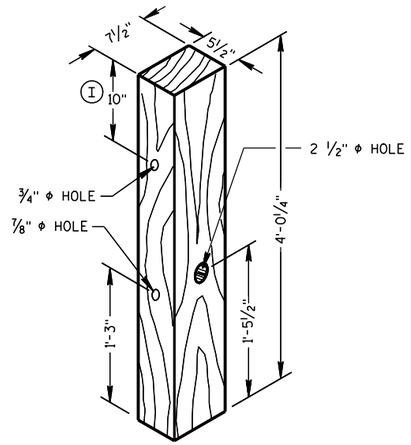
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 44-1b

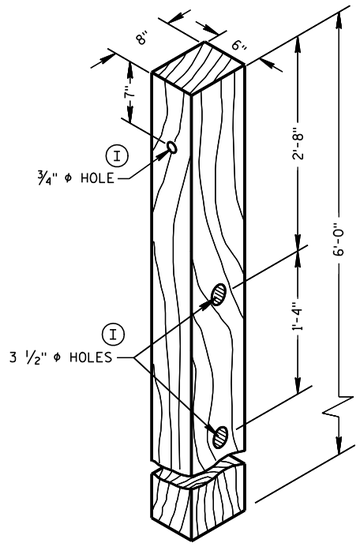


FOUNDATION TUBE (2)



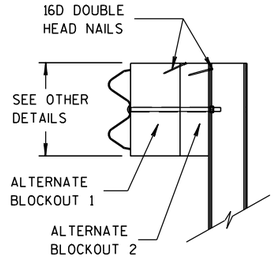
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

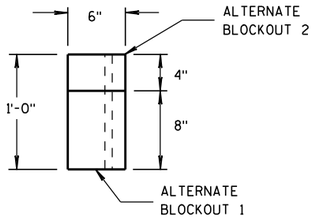


POSTS NUMBER 3-9

WOOD CRT POST (3)

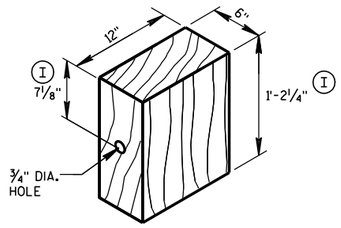


SIDE VIEW



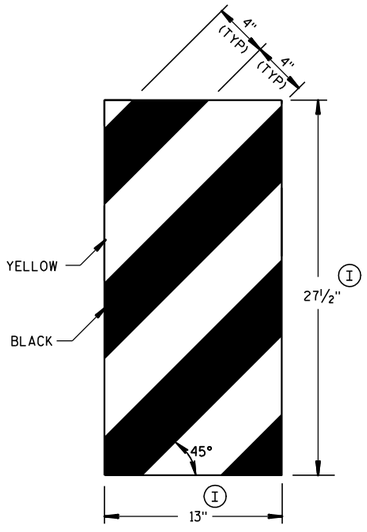
TOP VIEW

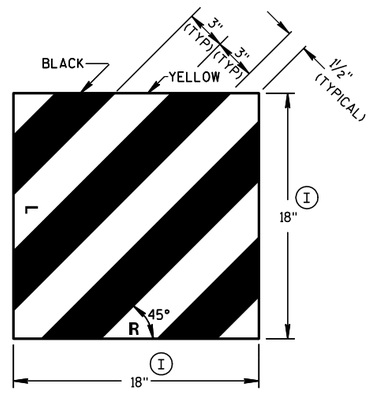
ALTERNATE WOOD BLOCKOUT DETAIL



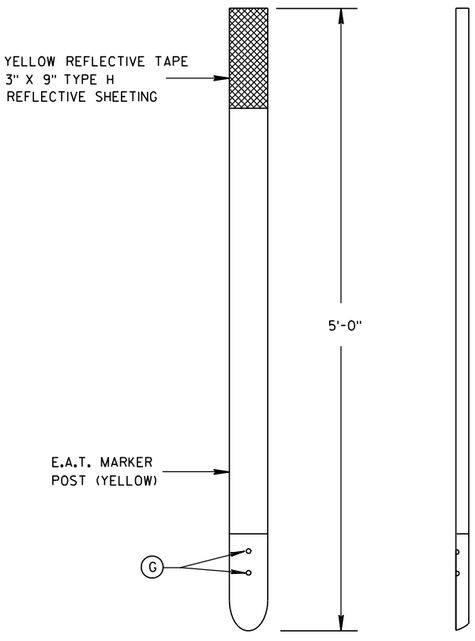
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



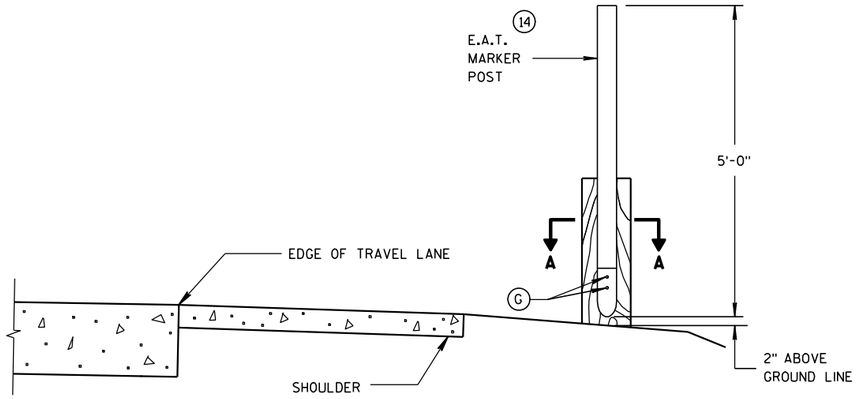


GENERIC REFLECTIVE SHEETING (13) (H)



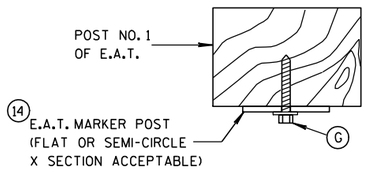
FRONT VIEW **SIDE VIEW**

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

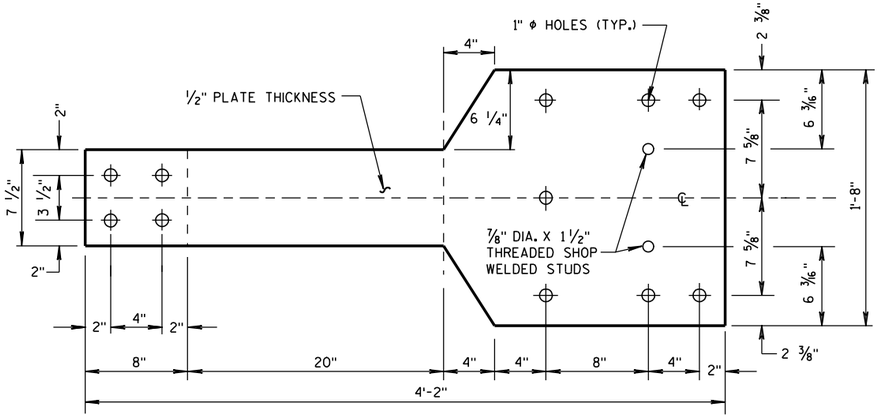
APPROVED
5/23/2011 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER
FHWA

6

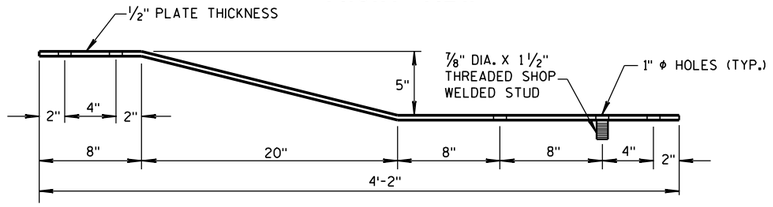
S.D.D. 14 B 44-1c

GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

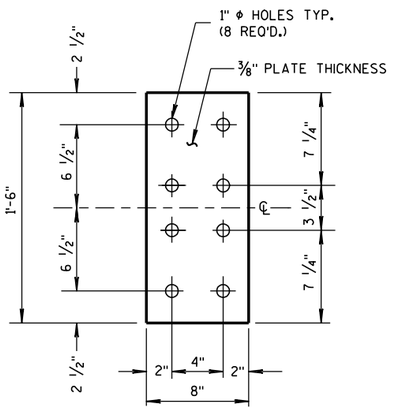


FRONT VIEW



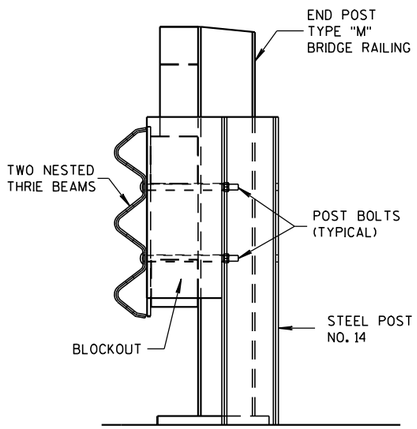
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

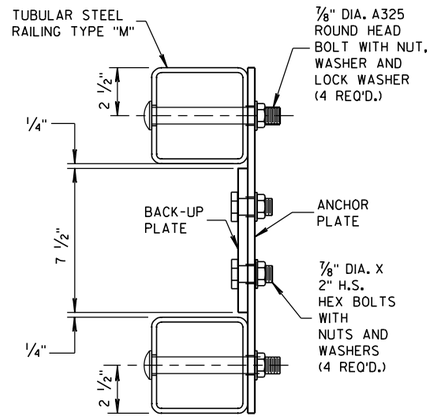


FRONT VIEW

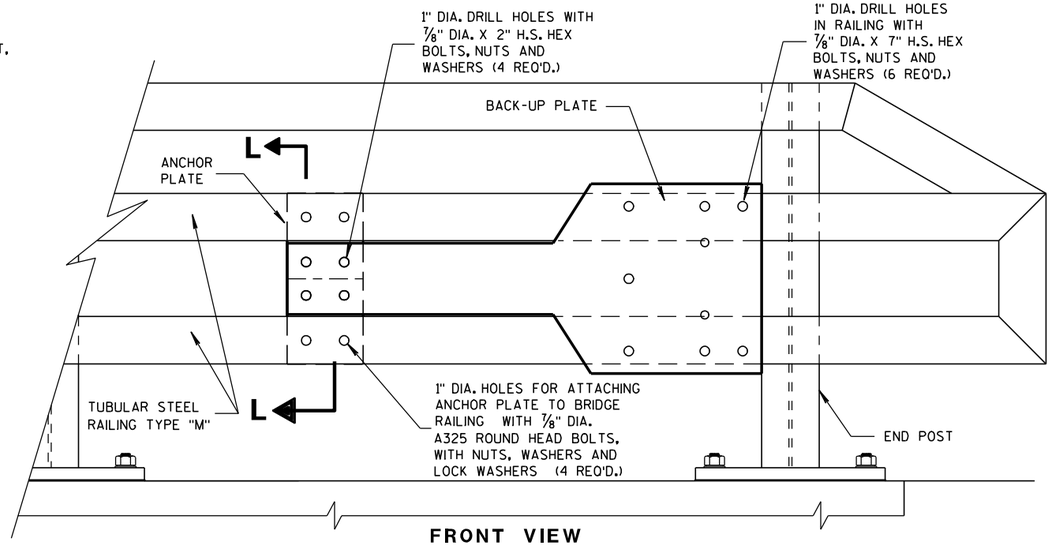
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

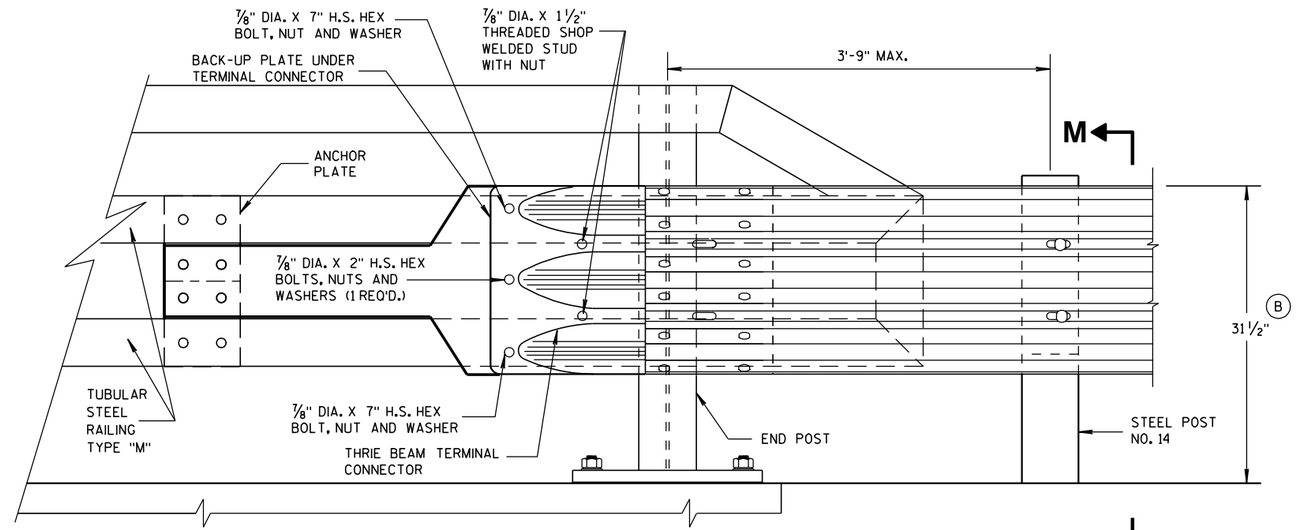


SECTION L-L

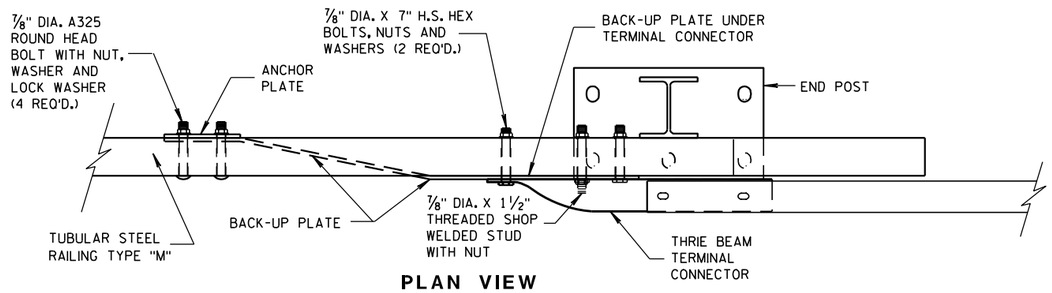


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-31-2012 DATE
/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER
22 ENT
FHWA

6

S.D.D. 14 B 45-3h

6

S.D.D. 14 B 45-3h

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

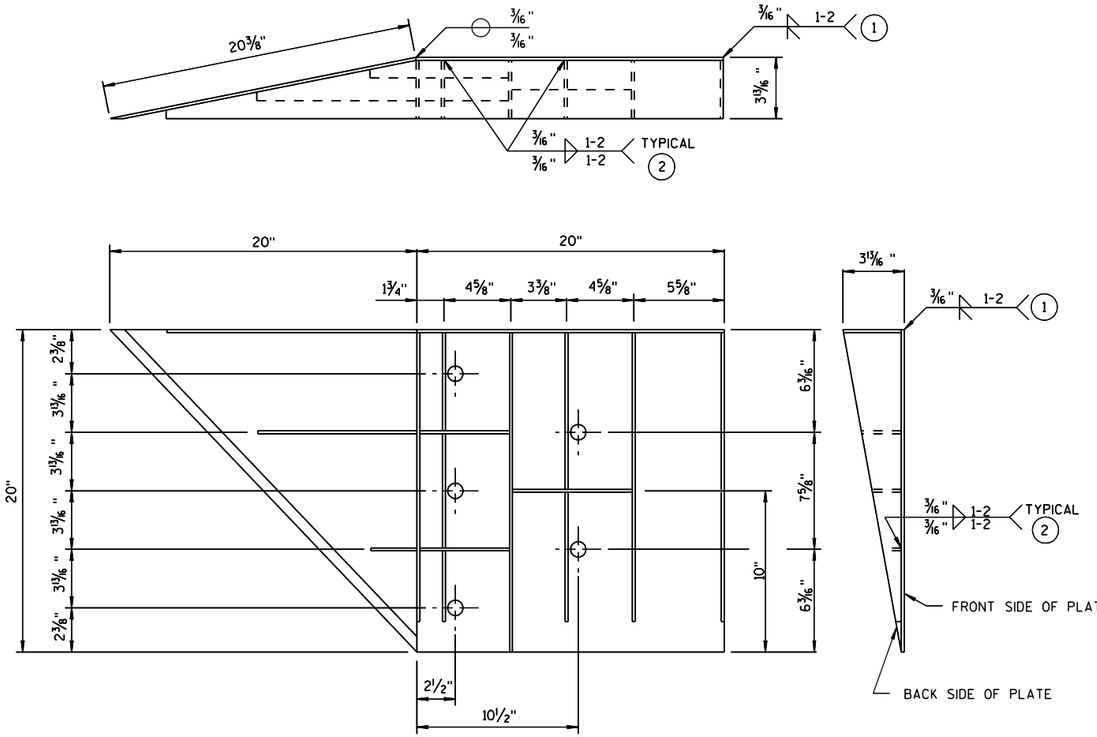
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(1) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

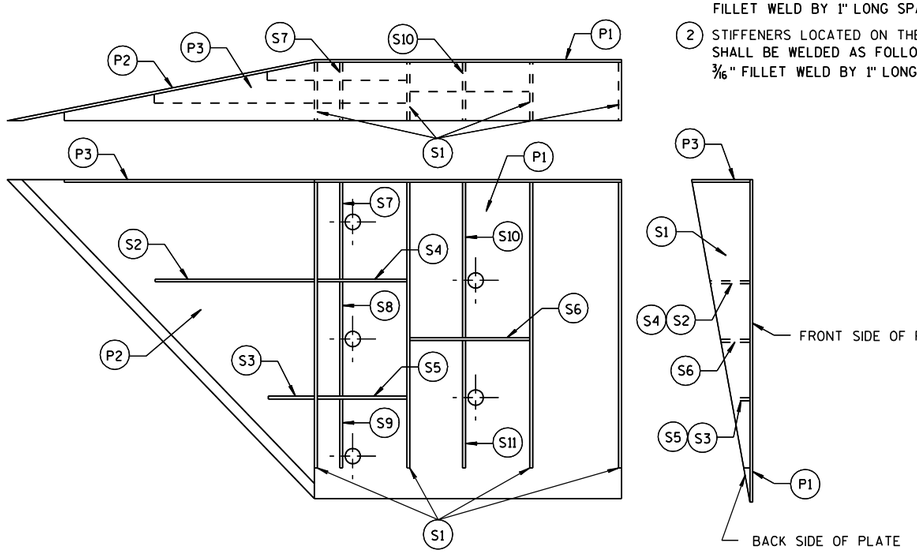


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

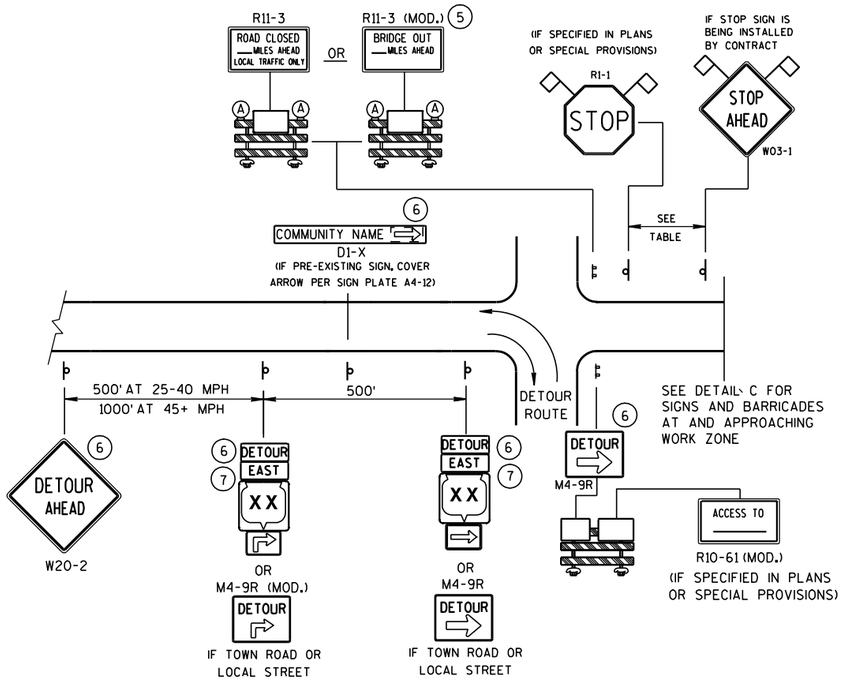
APPROVED
8/31/2012 — DATE
/S/ Jerry H ---- — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 45-3i

6

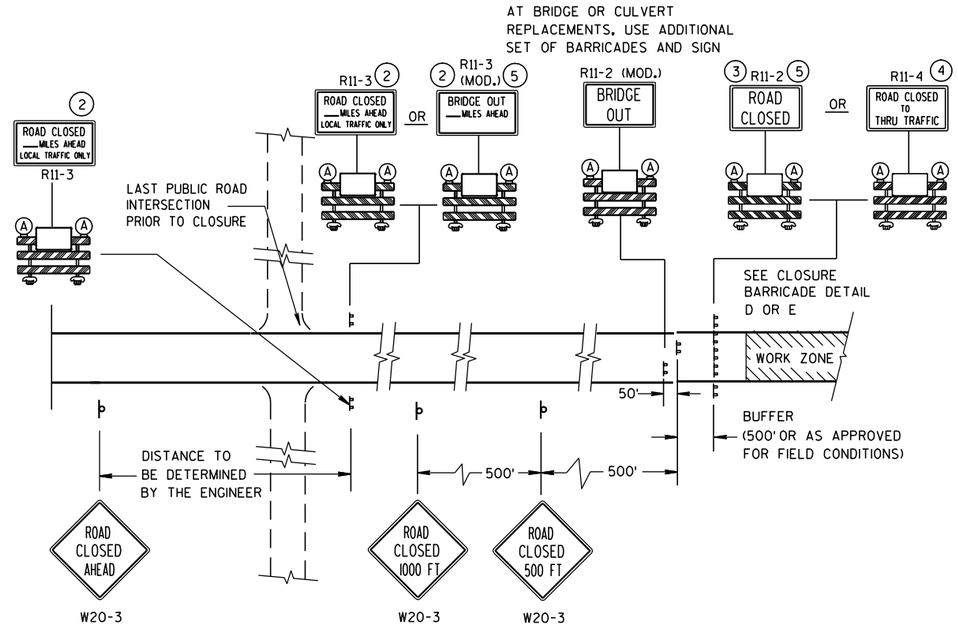
S.D.D. 14 B 45-3i



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

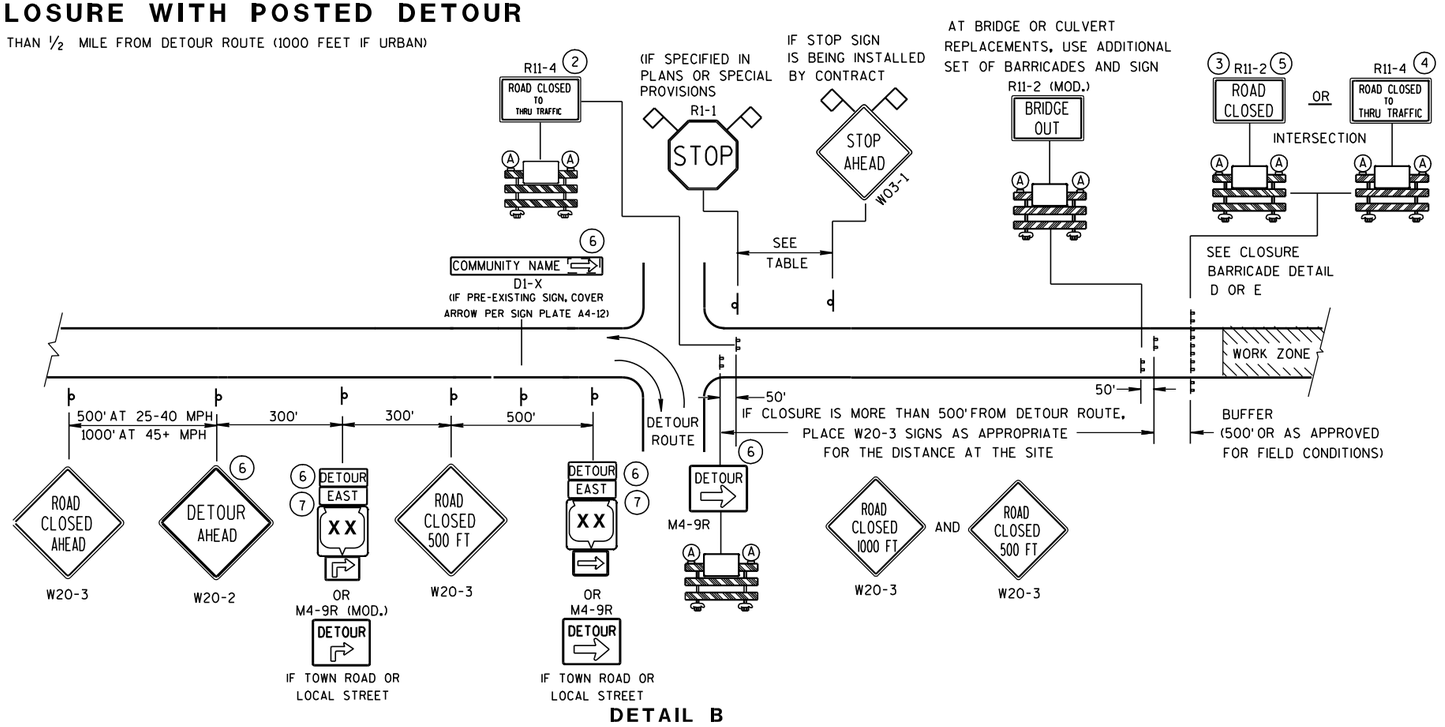


DETAIL C

MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-4b
FOR GENERAL NOTES
AND FOOTNOTES (1) THROUGH (7)



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

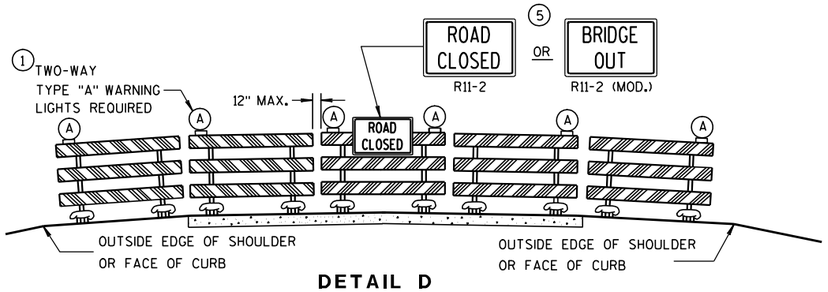
- POST MOUNTED SIGN
- TYPE III BARRICADES
- (A) TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK ZONE
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1; M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

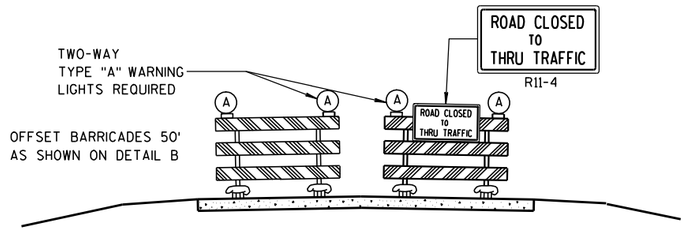
S.D.D. 15 C 2-4a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-4a FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

THE REFLECTIVE SHEETING USED ON R11-2, R11-3, R11-4, R10-61 AND R1-1 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

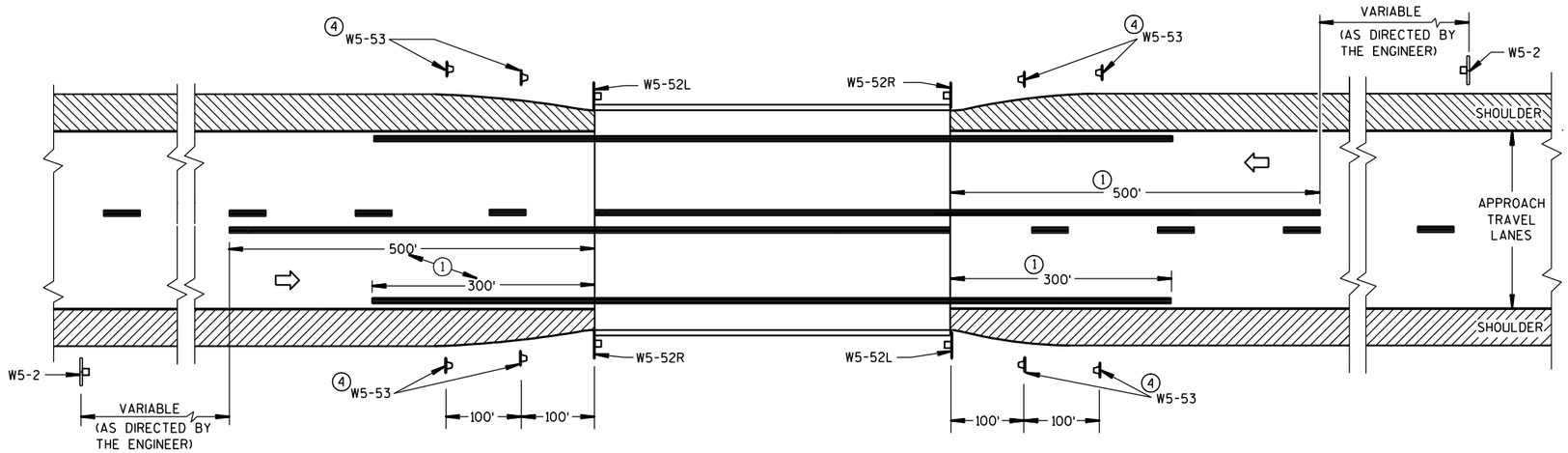
9/16/03 — DATE

/S/ Thomas N. [illegible] — CHIEF SIGNS AND MARKINGS ENGINEER

FHWA

6

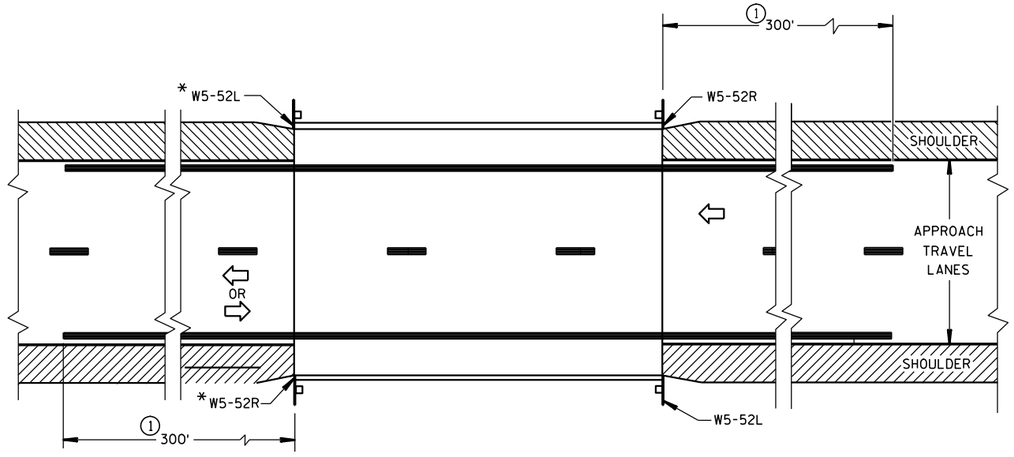
S.D.D. 15 C 2-4b



SITUATION 1

WARRANTING CRITERION:

BRIDGE WIDTH IS AT LEAST 18 FEET BUT LESS THAN 24 FEET

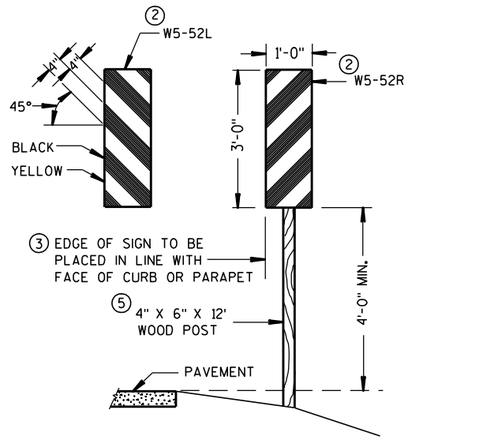


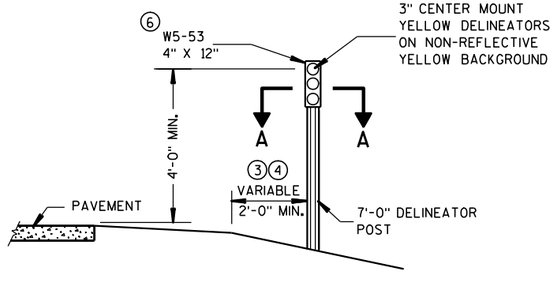
*OMIT ON ONE-WAY TRAVELLED WAYS

SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.





OBJECT MARKER PLACEMENT

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

① MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.

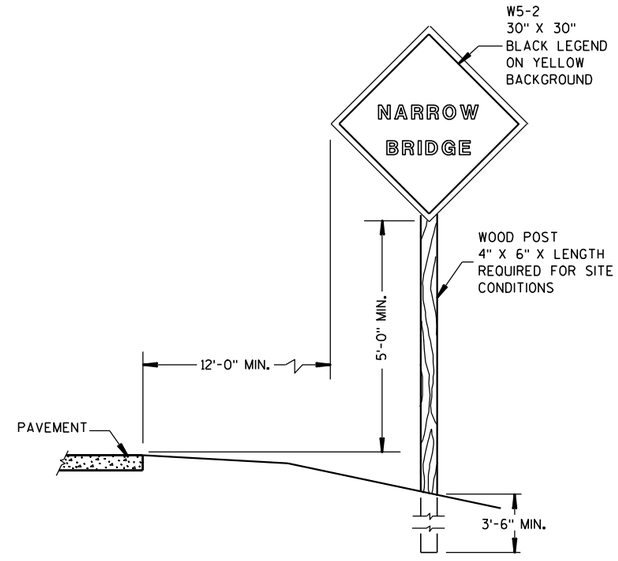
② FACE OF OBJECT MARKERS W5-52R AND W5-52L SHALL BE COVERED WITH TYPE H REFLECTIVE SHEETING.

③ LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.

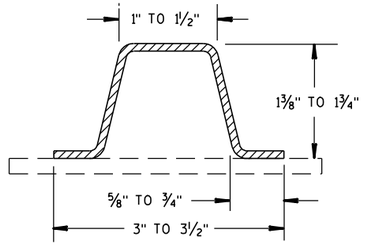
④ OBJECT MARKERS (W5-53) SHALL BE LOCATED ALONG A LINE FLARED AWAY FROM THE BRIDGE CORNER TO DELINEATE THE NARROWING OF THE SHOULDER OR BERM.

⑤ A 12 FOOT DELINEATOR POST MAY BE USED INSTEAD OF A WOOD POST.

⑥ NON-BID ITEM. INCIDENTAL TO OTHER ITEMS.



SIGN PLACEMENT



SECTION A-A

(MINIMUM WEIGHT 1.9 LBS. PER FT. AFTER GALVANIZING)

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/5/06 — DATE

/S/ Thomas N. [illegible] — STATE TRAFFIC ENGINEER

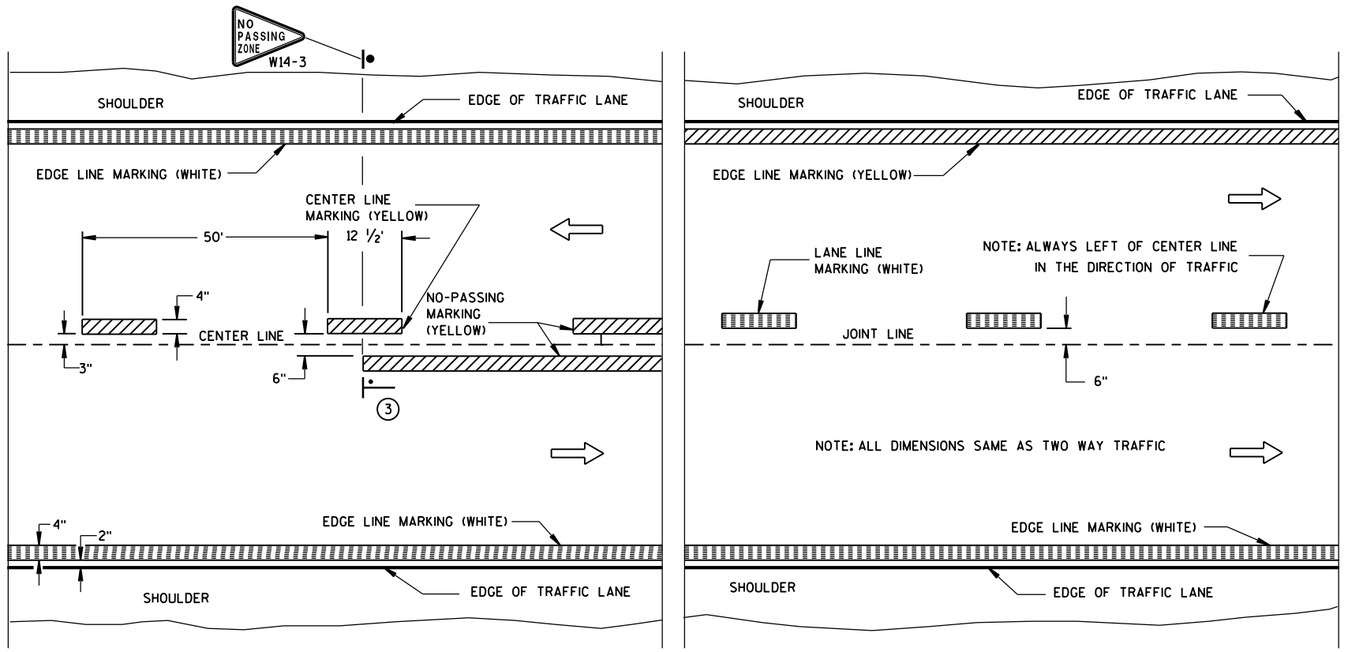
FHWA

6

S.D.D. 15 C 6-5

6

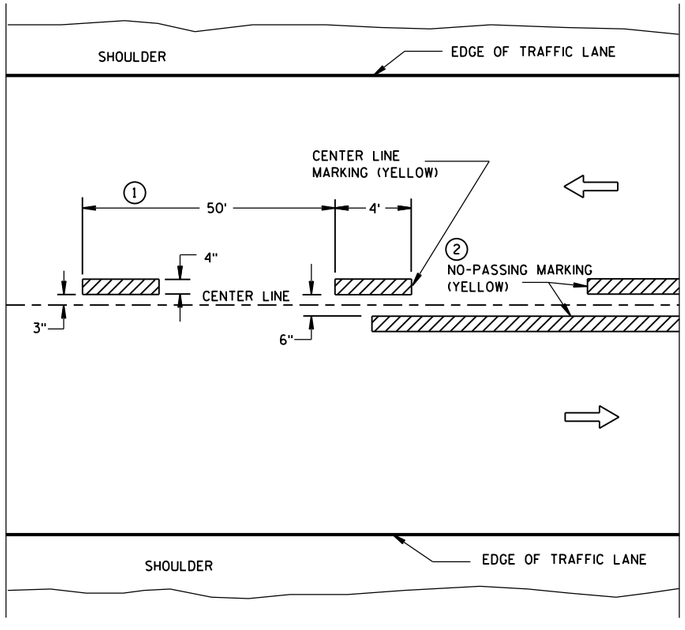
S.D.D. 15 C 6-5



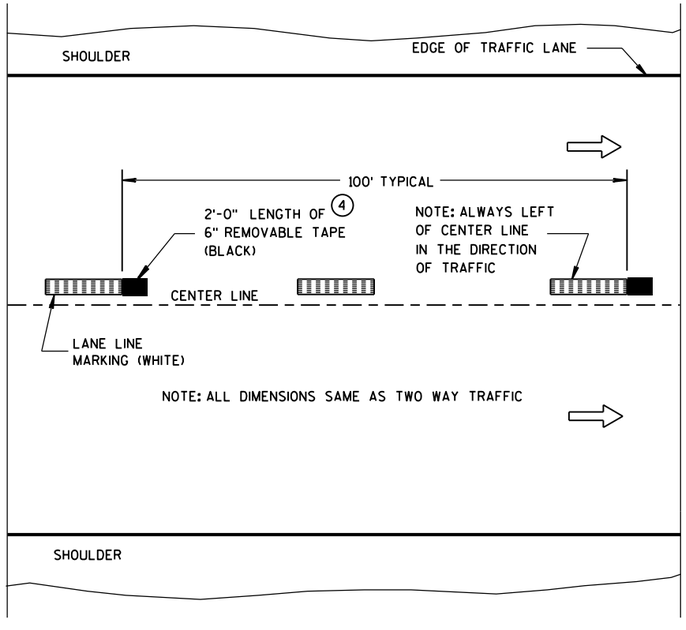
TWO WAY TRAFFIC

ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

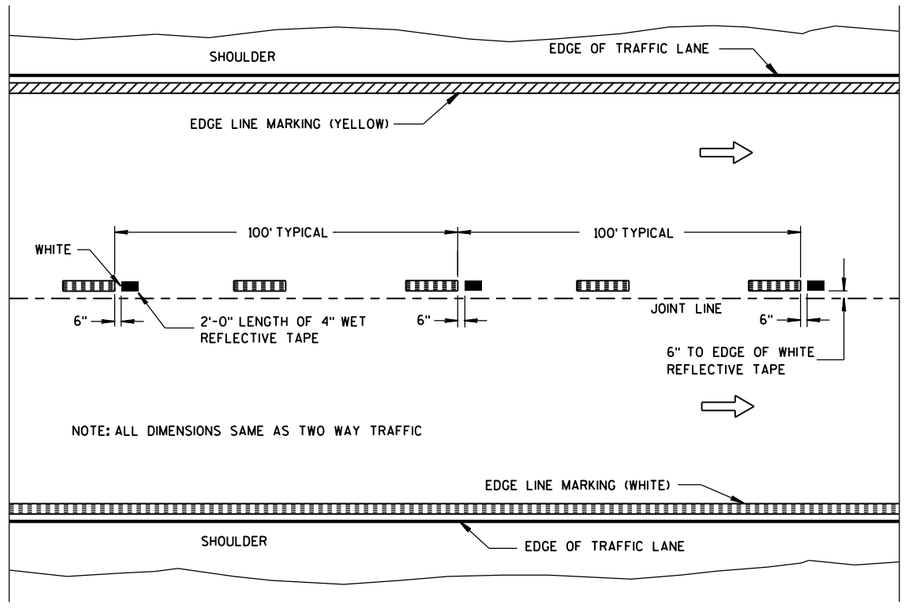
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

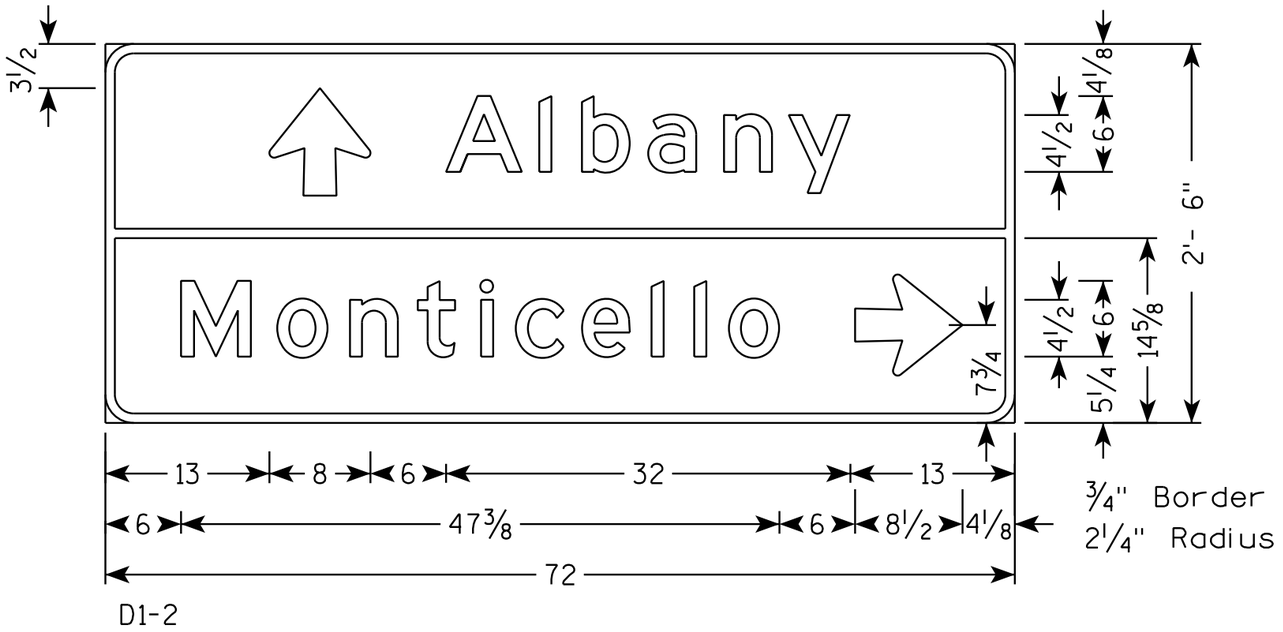
APPROVED
10-1-2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 C 8-15a

6

S.D.D. 15 C 8-15a



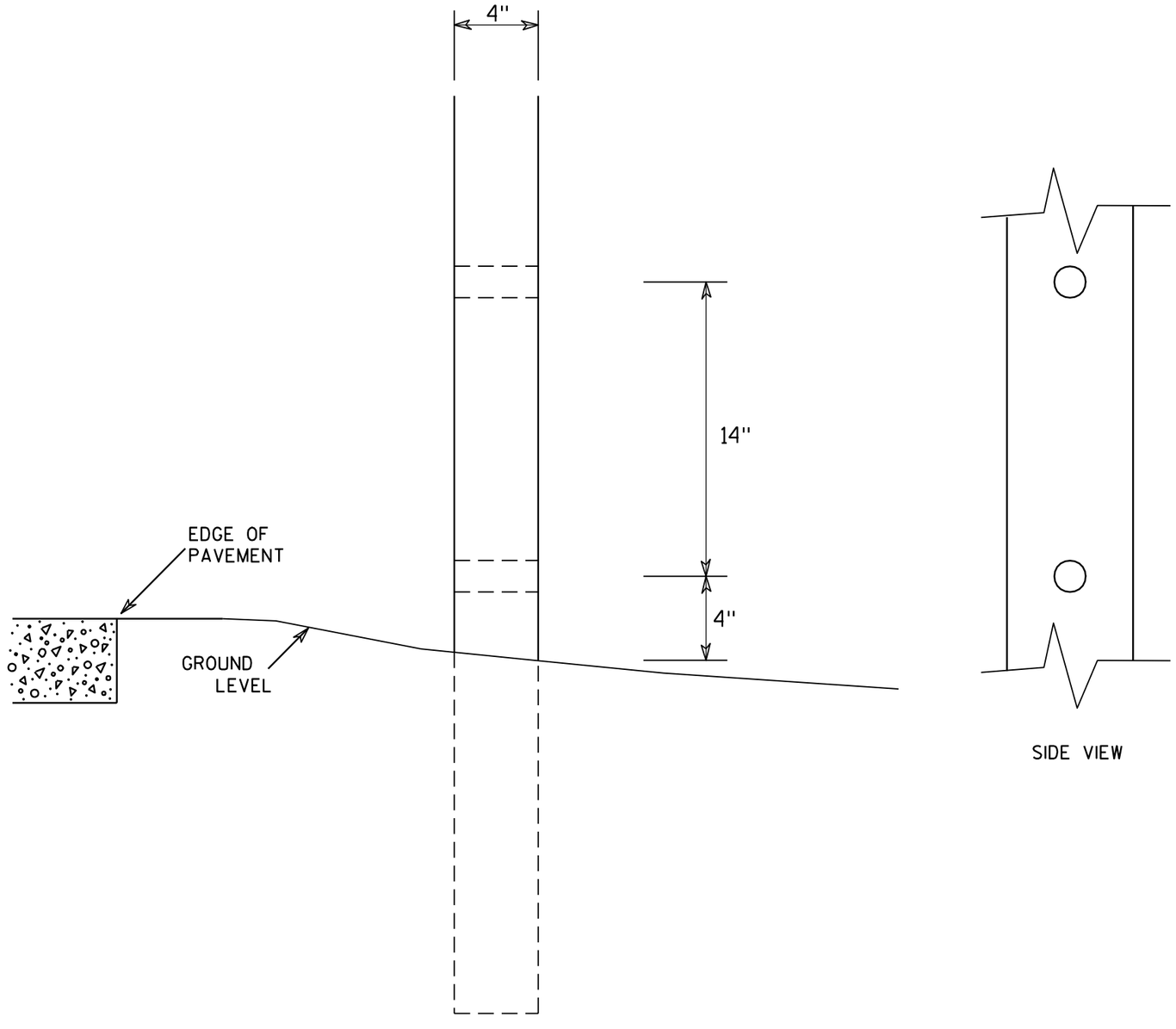
NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E

7

7

PROJECT NO:5605-00-72	HWY:CTH E	COUNTY:GREEN	PERMANENT SIGNING	SHEET NO: 28	E



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

4 X 6 WOOD POST MODIFICATIONS

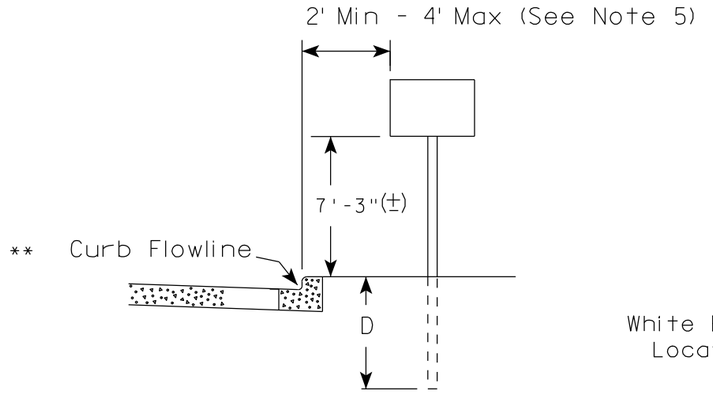
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

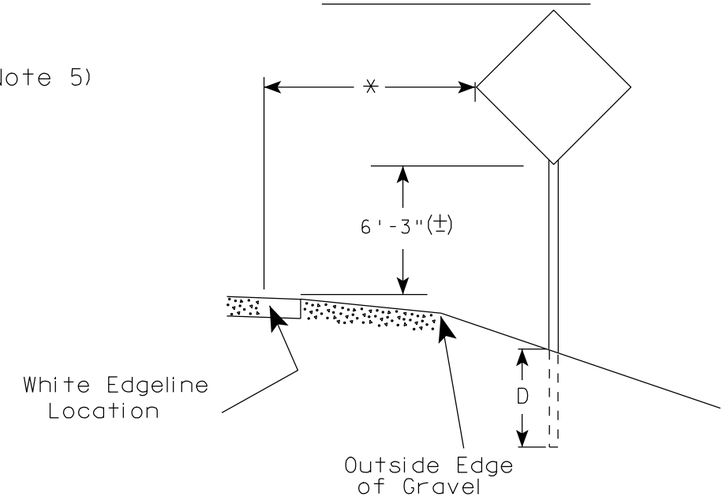
DATE 3/27/97 PLATE NO. A4-11.2

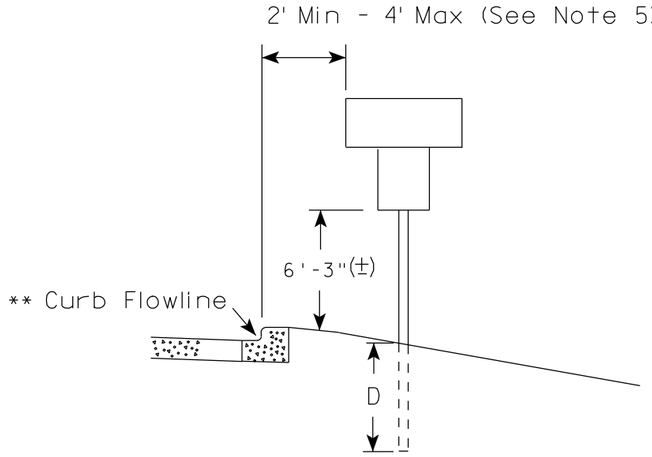
PROJECT NO: 5605-00-72	HWY: CTH E	COUNTY: GREEN	PERMANENT SIGNING	SHEET NO: 29	E

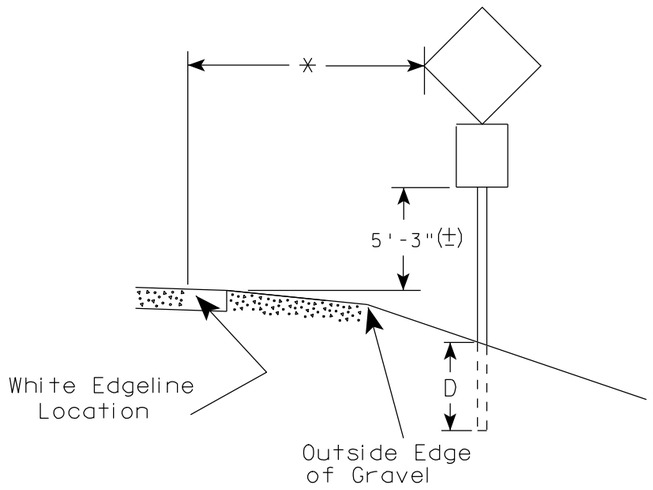
URBAN AREA



RURAL AREA (See Note 2)







** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

GENERAL NOTES

1. Signs wider than 4 feet or larger than 20 sq. ft. shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

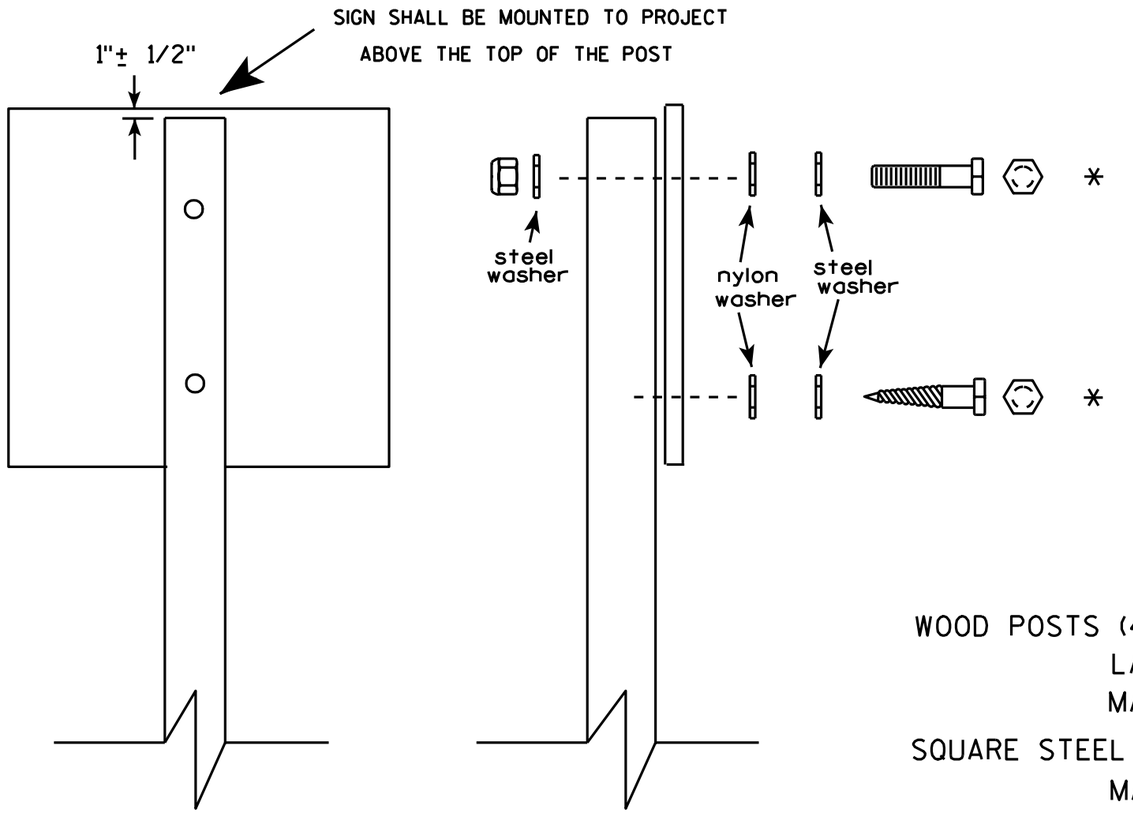
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 9/21/2011 PLATE NO. A4-3.16

7

7

PROJECT NO: 5605-00-72	HWY: CTH E	COUNTY: GREEN	PERMANENT SIGNING	SHEET NO: 30	E



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

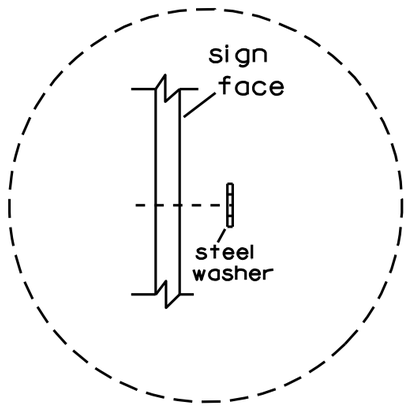
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

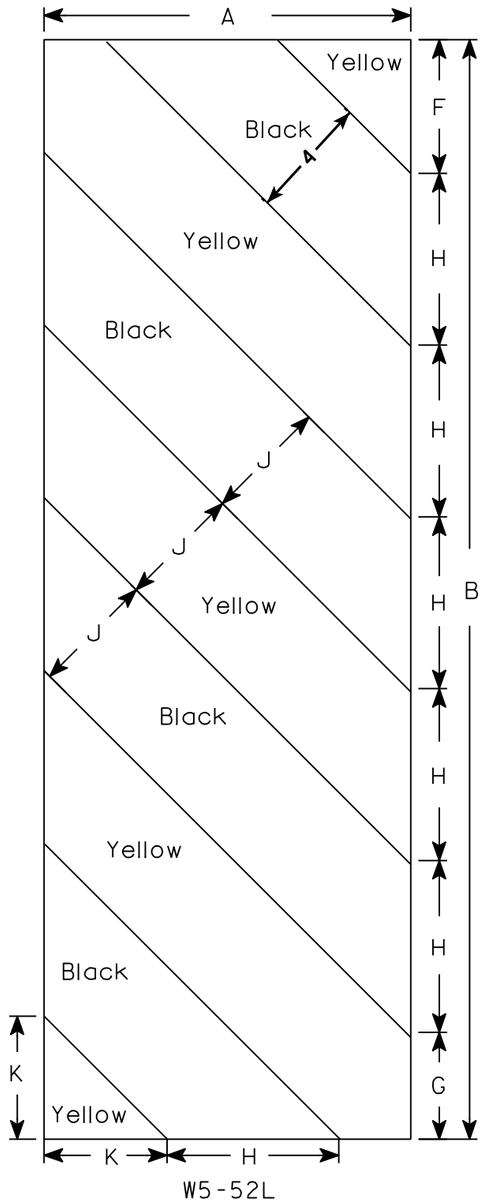
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

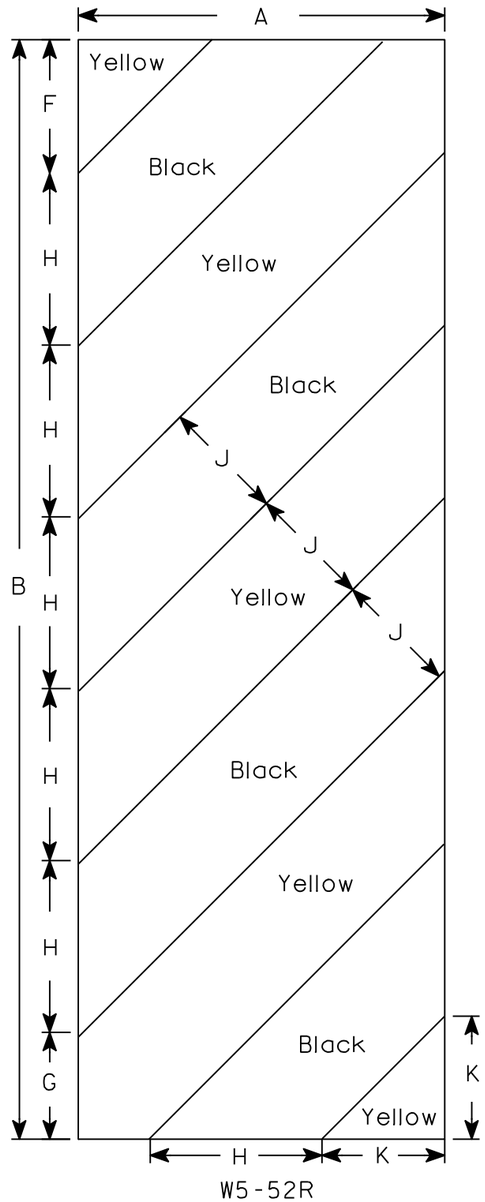
DATE 3/23/10 PLATE NO. A4-8.7

PROJECT NO: 5605-00-72	HWY: CTH E	COUNTY: GREEN	PERMANENT SIGNING	SHEET NO: 31	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\A48.DGN PLOT DATE : 23-MAR-2010 10:15 PLOT BY : ditjph
WISDOT/CADDS SHEET 42



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Alternate colors of stripes as shown.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

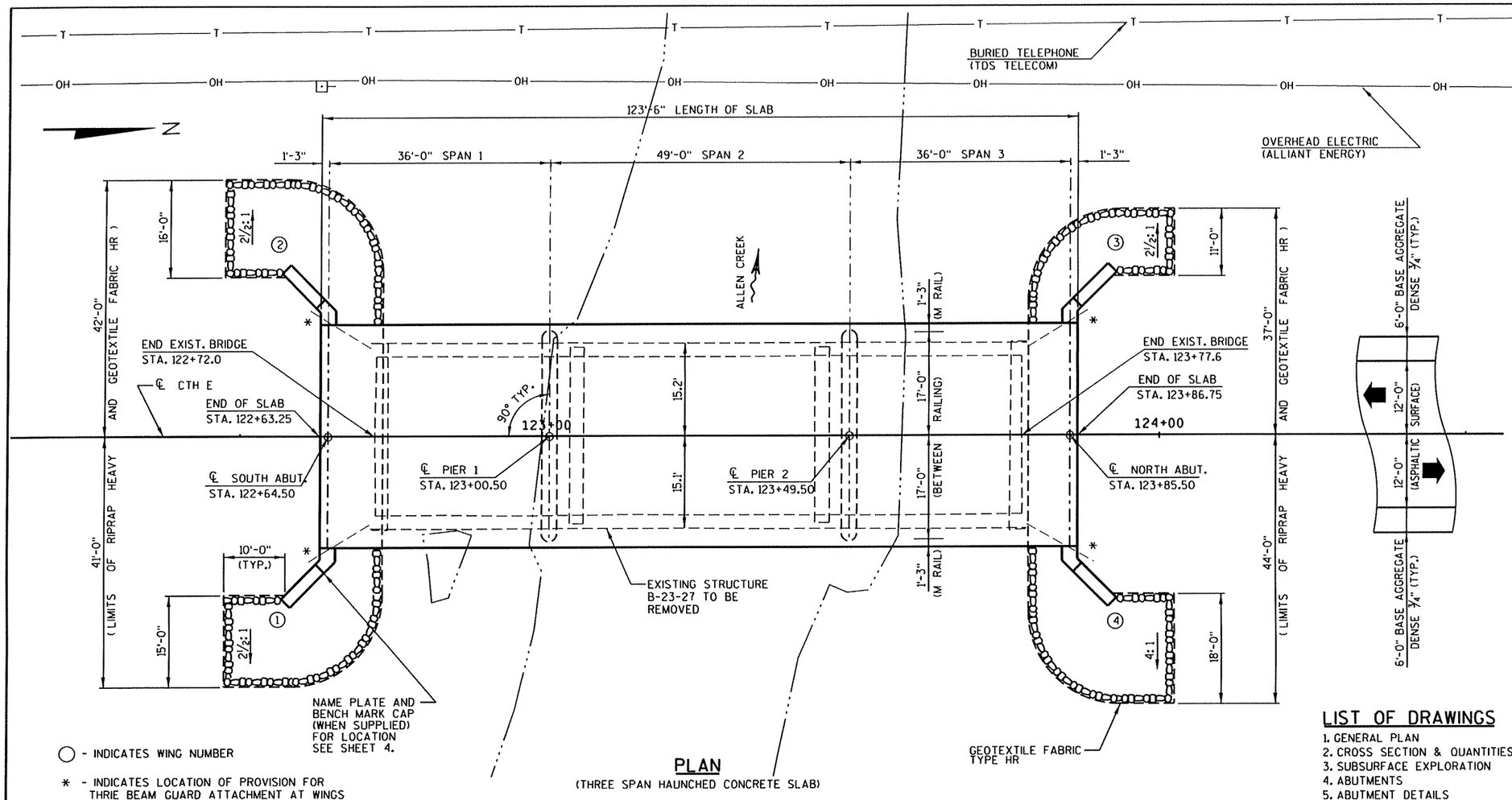
PROJECT NO: 5605-00-72 | HWY: CTH E | COUNTY: GREEN | PERMANENT SIGNING | SHEET NO: 32 | E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W552.DGN PLOT DATE : 29-MAY-2012 13:03 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 4.961899:1.000000

WISDOT/CADDS SHEET 42

7

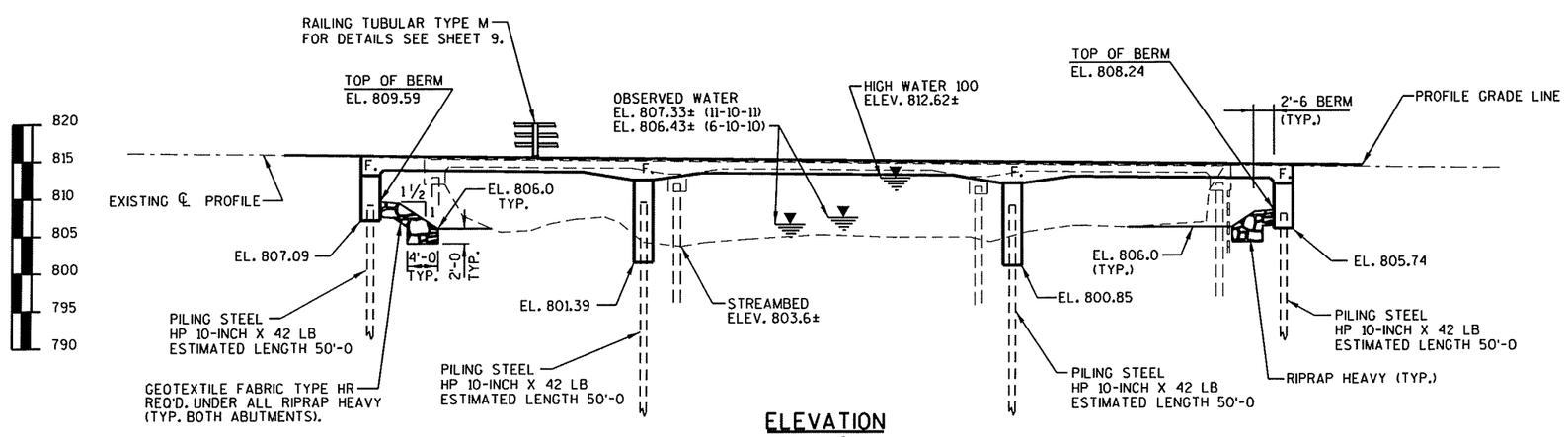
7



◯ - INDICATES WING NUMBER

* - INDICATES LOCATION OF PROVISION FOR THRIE BEAM GUARD ATTACHMENT AT WINGS

PLAN
(THREE SPAN HAUNCHED CONCRETE SLAB)



ELEVATION
(NORMAL TO ℄ CTH E)

STATE PROJECT NUMBER
5605-00-72

BENCHMARKS ◐ NAVD 88

NO.	STA.	DESCRIPTION	ELEV.
1	118+87.02 23.06' RT.	BRONZE WISDOT SURVEY CONTROL STATION DISK	818.15
2	122+73.15 13.57' RT	BRONZE DISK IN SOUTHEAST BRIDGE CURB	816.29
3	124+04.51 69.50' RT.	SPIKE IN FOOT OF WEST ELM IN CLUSTER	807.98

DESIGN DATA

LIVE LOAD

DESIGN RATING : HL-93
INVENTORY RATING FACTOR : 1.17
OPERATIONAL RATING FACTOR : 1.52

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MAX. STD. PERMIT VEHICLE LOAD = 250 KIPS

TRAFFIC DATA:
A.A.D.T. (2013) = 1300
A.A.D.T. (2033) = 1700

ULTIMATE DESIGN STRESSES;

CONCRETE MASONRY - SUPERSTRUCTURE - f'c = 4,000 P.S.I.
- SUBSTRUCTURES - f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT
HS BRIDGES AND BAR STEEL
REINFORCEMENT HS COATED BRIDGES ——— fy = 60,000 P.S.I.
PILING STEEL HP ——— fy = 50,000 P.S.I.

FOUNDATION DATA;

ABUTMENTS AND PIERS SHALL BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB. PILES TO BE DRIVEN TO A REQUIRED DRIVING RESISTANCE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5. REQUIRED DRIVING RESISTANCE IS 100 TONS PER ABUT. PILE, 50 TONS PER WING PILE AND 180 TONS PER PIER PILE. ESTIMATED PILE LENGTHS ARE 50'-0" AT BOTH ABUTMENTS AND PIERS, AND 40'-0" FOR THE WINGS.

HYDRAULIC DATA;

100 YEAR FREQUENCY

DRAINAGE AREA ——— 70.5 SQ. MI.
Q_{100} - TOTAL ——— 5,200 C.F.S.
- THRU BRIDGE ——— 4,868 C.F.S.
- OVERTOPPING ROADWAY ——— 332 C.F.S.
VELOCITY - THRU BRIDGE ——— 10.47 FT./SEC.
WATERWAY AREA - THRU BRIDGE ——— 465 SQ. FT.
SCOUR CRITICAL CODE ——— 5
HIGH WATER$_{100}$ ELEVATION ——— 812.62 ±

ROADWAY OVERFLOW DESIGN FREQUENCY

OVERTOPPING FREQUENCY ——— 18 YEARS
Q_{18} ——— 3,150 C.F.S.
HIGH WATER$_{18}$ ELEVATION ——— 811.78 ±
Q_2 ELEVATION (860 CFS) ——— 808.41 ±

LIST OF DRAWINGS

DESIGN CONTACT:
DAN WAGNER
(608) 355-8952

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608) 266-8489

NO.	DATE	REVISION	BY

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL
DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4505 Fax: 608-356-2770

WISCONSIN
DANIEL H. WAGNER
E-19220
BARABOO, WI
PROFESSIONAL ENGINEER
11-14-2012

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR 01/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-23-170

CTH E OVER ALLEN CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
GREEN	ALBANY

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
DHW	LJR	RLR	DHW

GENERAL PLAN

SHEET 33 OF 9

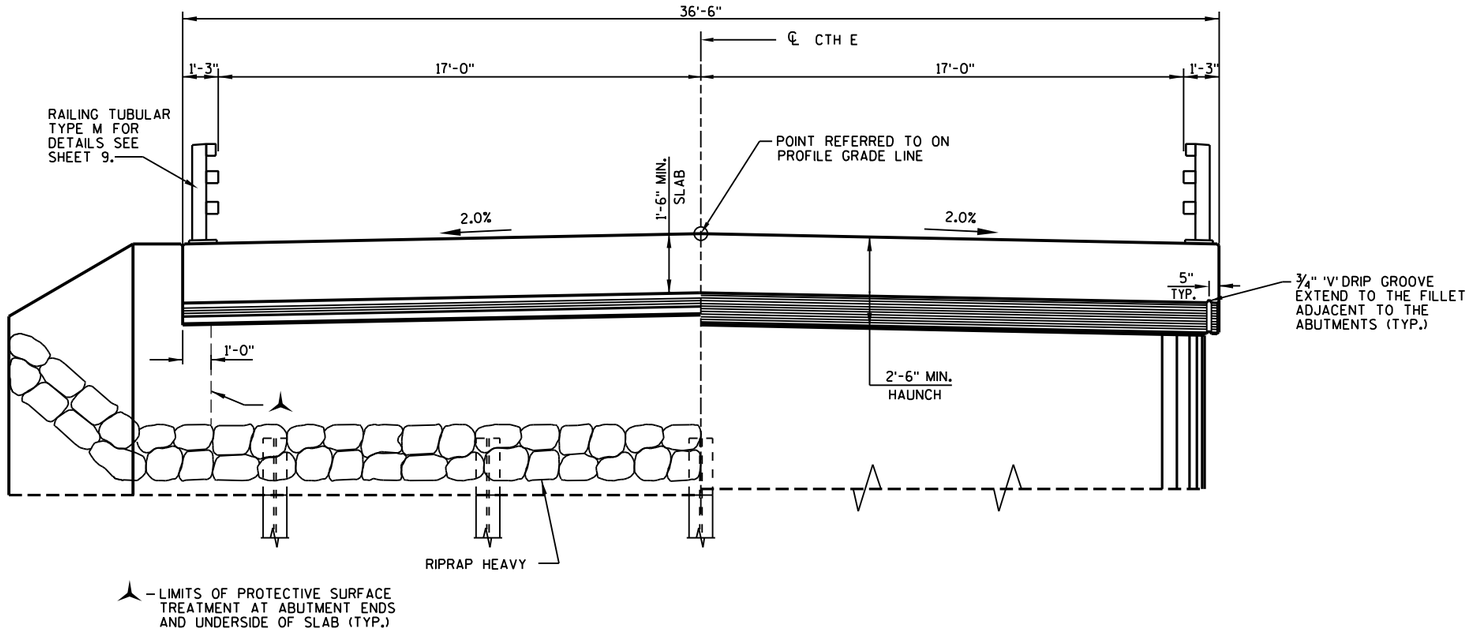
FILE= 239020_01.DGN
DATE= 11/14/2012

8

8

STATE PROJECT NUMBER

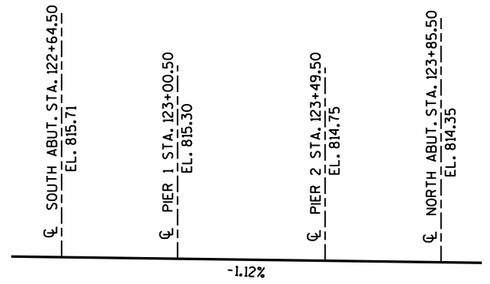
5605-00-72



AT ABUTMENTS AT PIERS

CROSS SECTION THRU BRIDGE

(LOOKING NORTH)



PROFILE GRADE LINE - CTH E

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUT.	PIER 1	PIER 2	NORTH ABUT.	SUPER	TOTAL
203.0700.S.01	REMOVING OLD STRUCTURE OVER WATERWAY WITH DEBRIS CAPTURE SYSTEM STATION 123+25	LS	-	-	-	-	-	1
206.1000.01	EXCAVATION FOR STRUCTURE BRIDGES B-23-170	LS	-	-	-	-	-	1
210.0100	BACKFILL STRUCTURE	CY	130	-	-	130	-	260
502.0100	CONCRETE MASONRY BRIDGES	CY	35	35	35	35	282	422
502.3200	PROTECTIVE SURFACE TREATMENT	SY	20	-	-	20	570	610
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	2660	1700	1700	2660	-	8720
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1465	70	70	1465	54590	57660
513.4060.01	RAILING TUBULAR TYPE M B-23-170	LS	-	-	-	-	-	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	7	-	-	7	-	14
550.1100	PILING STEEL HP (10-INCH X 42 LB)	LF	330	350	350	330	-	1360
606.0300	RIPRAP HEAVY	CY	110	-	-	90	-	200
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	70	-	-	70	-	140
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	210	-	-	180	-	390
	NON-BID ITEMS							
	PREFORMED FILLER	SIZE						½" & ¾"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE FABRIC TYPE HR TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES (B-23-170)" FOR THE ABUTMENTS.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

THIS STRUCTURE WILL REPLACE THE EXISTING BRIDGE, B-23-27, A THREE SPAN, 107' LONG, HAUNCHED CONCRETE SLAB SET MONOLITHIC ON CONCRETE CAPS AT THE ABUTMENTS ON CAST-IN-PLACE CONCRETE PILING WITH TIMBER BACKING. PIERS ARE SUPPORTED ON CAST-IN-PLACE CONCRETE PILING WITH CONCRETE CAPS.

AT THE ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE. THE BACKFILL STRUCTURE ESTIMATED QUANTITIES ASSUMED A 1½:1 EXCAVATION SLOPE AT THE ABUTMENTS.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO BENCH MARK NO. 1, LOCATED APPROXIMATELY 400 FEET SOUTH OF THE BRIDGE, A BRONZE WISDOT GEODETIC SURVEY CONTROL STATION "1H27", ELEVATION 818.15 NAVD 88.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP AND EDGES OF SLAB, TO THE OUTSIDE 1'-0" OF THE UNDERSIDE OF SLAB, TO THE TOPS OF WINGS, EXPOSED FRONT FACES OF WINGS AND EXPOSED ENDS OF ABUTMENTS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-23-170

CONST. SPEC.	DRAWN BY	PLANS CK'D.
WI "13"	RLR	DHW

CROSS SECTION & QUANTITIES

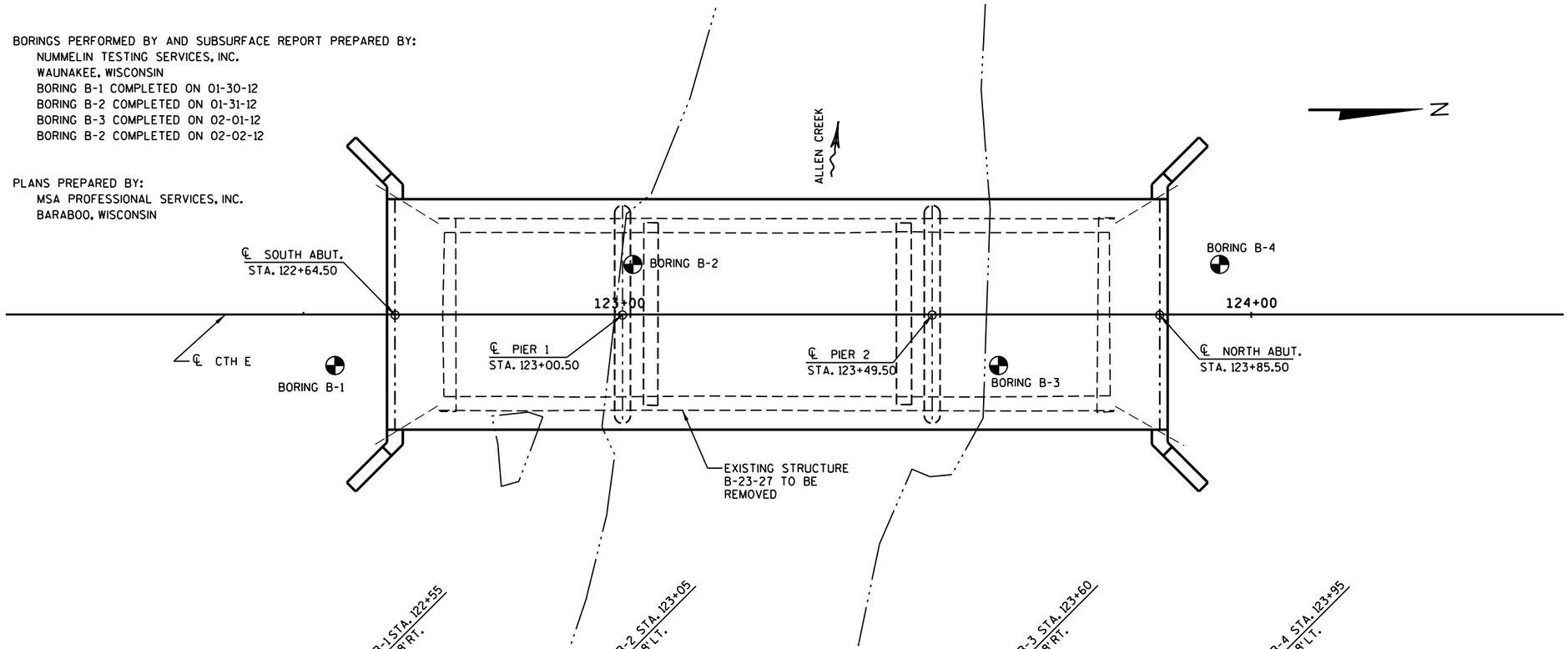
SHEET 7 OF 9
34

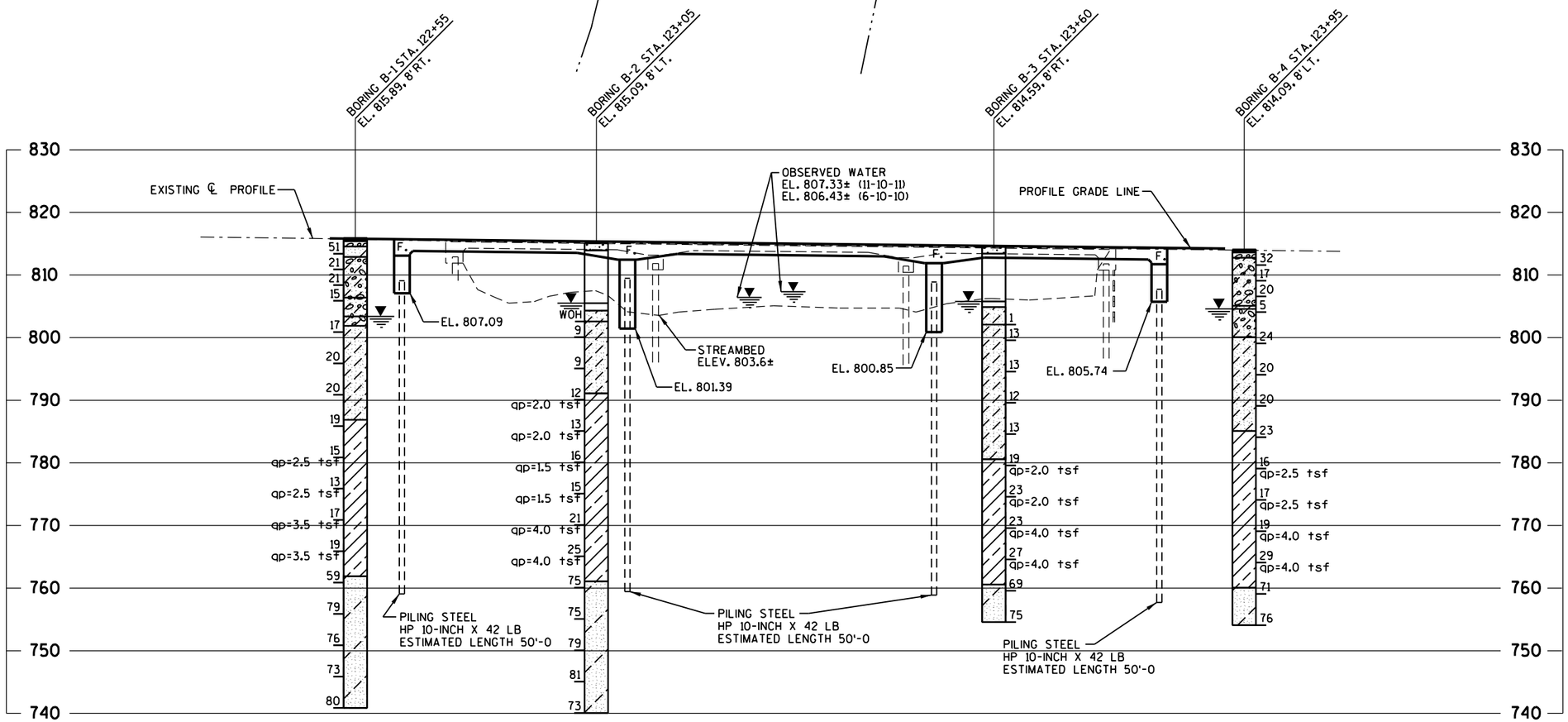
FILE= 239020_02.DGN
DATE= 11/14/2012

239020_02.dgn 11/14/2012 11:49:11 AM RRABSKA

BORINGS PERFORMED BY AND SUBSURFACE REPORT PREPARED BY:
NUMMELIN TESTING SERVICES, INC.
WAUNAKEE, WISCONSIN
BORING B-1 COMPLETED ON 01-30-12
BORING B-2 COMPLETED ON 01-31-12
BORING B-3 COMPLETED ON 02-01-12
BORING B-2 COMPLETED ON 02-02-12

PLANS PREPARED BY:
MSA PROFESSIONAL SERVICES, INC.
BARABOO, WISCONSIN





STATE PROJECT NUMBER

5605-00-72

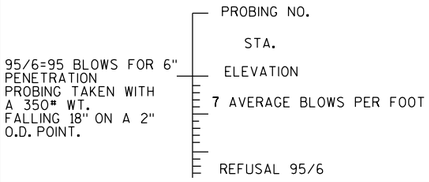
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

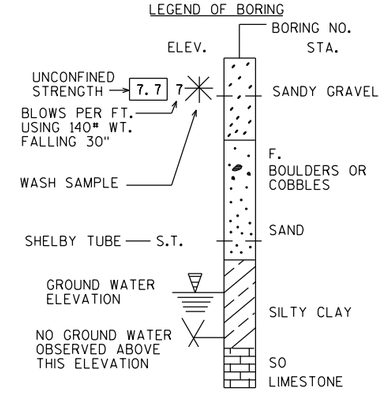
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-23-170

CONST. SPEC.	WI "13"	DRAWN BY	RLR	PLANS CK'D.	LJR

SUBSURFACE EXPLORATION

SHEET 2 OF 9
35

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DATE= 8/30/2012

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STATE PROJECT NUMBER

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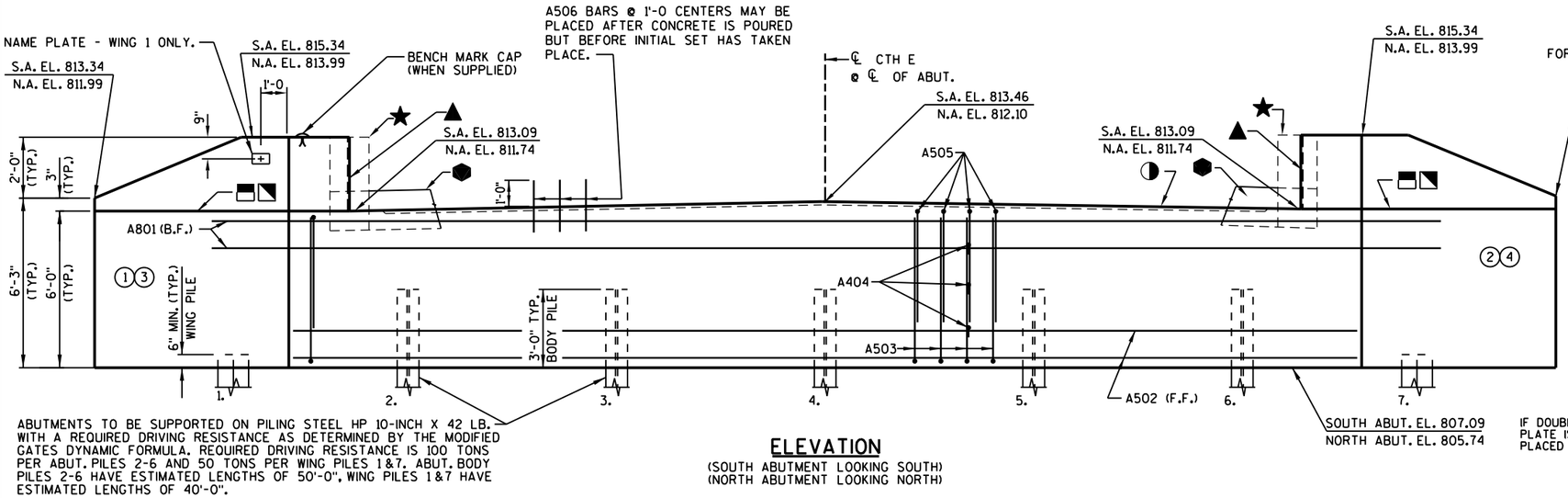
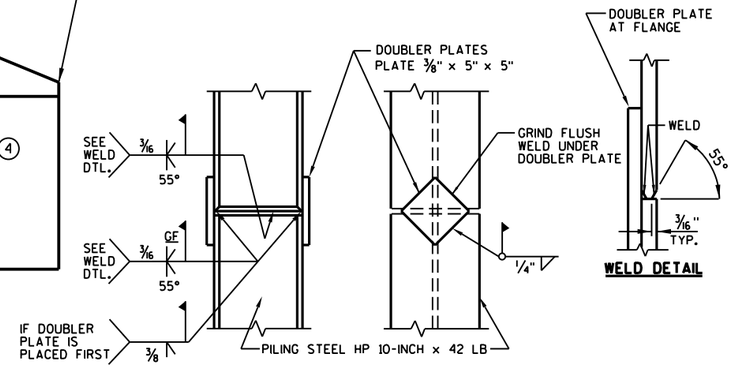


ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB. WITH A REQUIRED DRIVING RESISTANCE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. REQUIRED DRIVING RESISTANCE IS 100 TONS PER ABUT. PILES 2-6 AND 50 TONS PER WING PILES 1 & 7. ABUT. BODY PILES 2-6 HAVE ESTIMATED LENGTHS OF 50'-0", WING PILES 1 & 7 HAVE ESTIMATED LENGTHS OF 40'-0".

ELEVATION

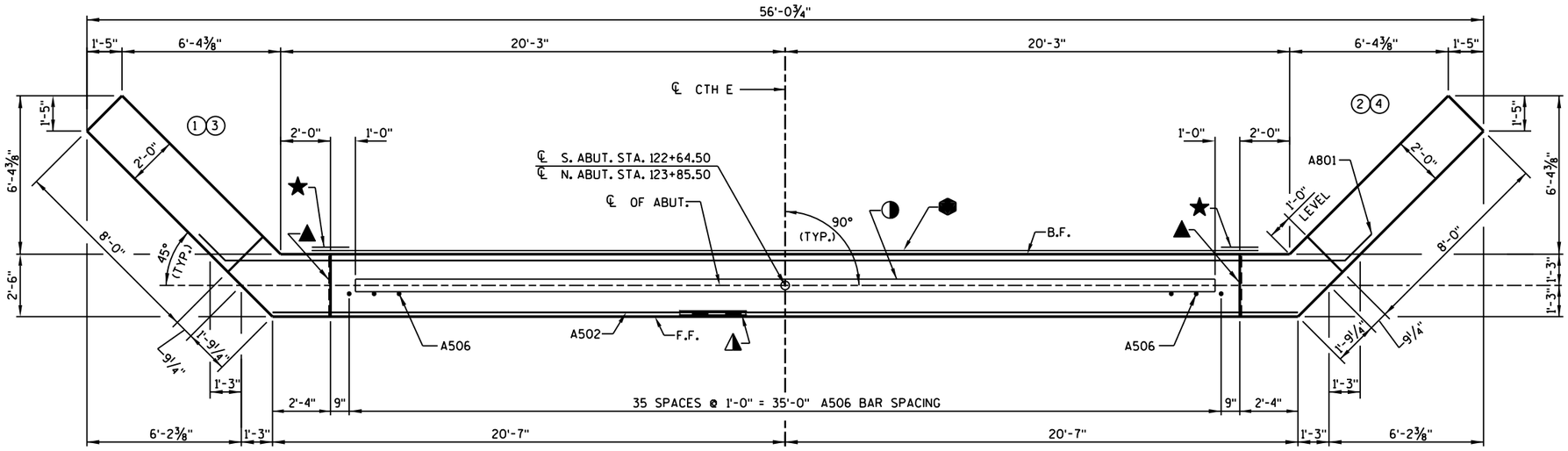
(SOUTH ABUTMENT LOOKING SOUTH)
(NORTH ABUTMENT LOOKING NORTH)

FOR WING DETAILS SEE SHEET 5.

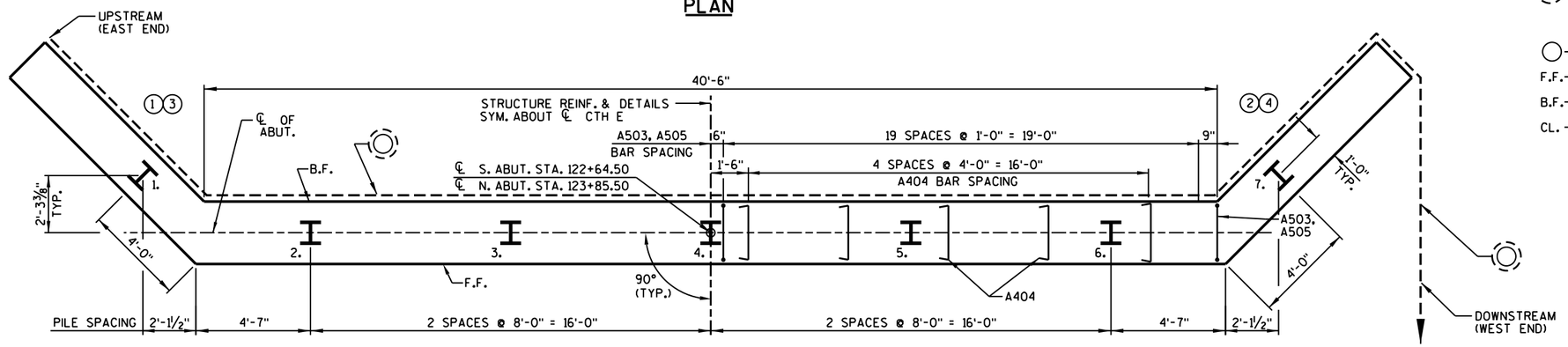


WELD DETAIL

PILE SPLICE DETAILS



PLAN



PILE PLAN

NOTE

DO NOT PLACE FILL ABOVE 3'-0" FROM THE BOTTOM OF ABUTMENT UNTIL THE SUPERSTRUCTURE IS IN PLACE.

LEGEND

- ◑ — KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ▲ — ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).
- ◭ — 4"x ¾" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- ⬢ — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.
- ◒ — OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6. IF JOINT IS USED, POUR CONCRETE ABOVE JOINT AFTER DECK IS IN PLACE AND PLACE ⬢ ON B.F. OF WING.
- ◹ — ¾" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONST. JOINT IS USED.
- ◎ — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE FABRIC AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE.
- ◯ — INDICATES WING NUMBER

F.F. — FRONT FACE

B.F. — BACK FACE

CL. — CLEAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-23-170

CONST. SPEC.	DRAWN BY	PLANS CK'D.
WI "13"	RLR	DHW

ABUTMENTS

SHEET 4 OF 9
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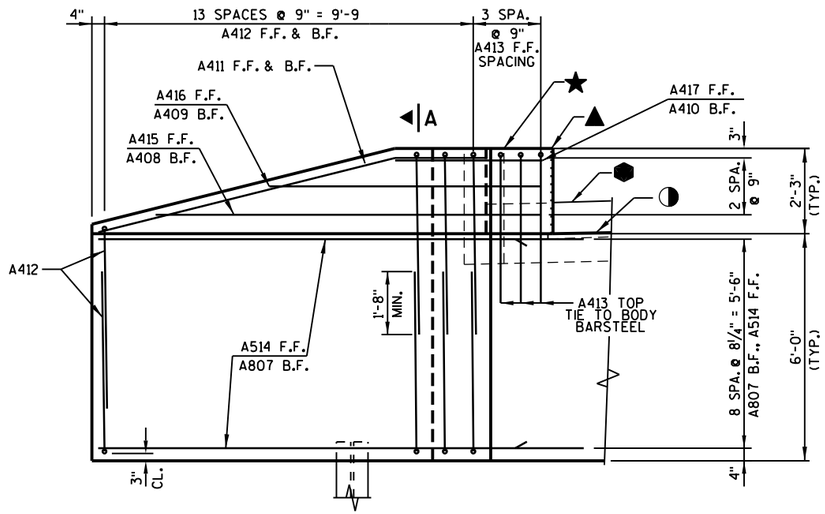
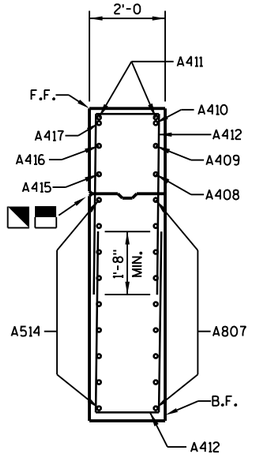


ELEVATION

(LOOKING AT F.F. OF WINGS)



SECTION A-A THRU WING

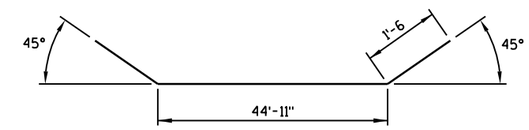
BILL OF BARS (1 ABUTMENT)

UNCOATED 2660 LBS.
COATED 1465 LBS.

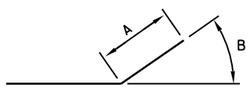
MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	LOCATION
A801	-	9	47-8	X	ABUTMENT BODY - B.F. - HORIZ.
A502	-	9	41-1		ABUTMENT BODY - F.F. - HORIZ.
A503	-	84	7-1	X	ABUTMENT BODY - F.F. & B.F. - VERT.
A404	-	30	2-8	X	ABUTMENT BODY - TIES - HORIZ.
A505	-	42	10-5	X	ABUTMENT BODY - TOP - VERT.
A506	36	-	2-0		ABUTMENT BODY - TOP DOWELS - VERT.
A807	18	-	13-3	X	WINGS - B.F. - HORIZ.
A408	2	-	9-2	X	WINGS - B.F. - HORIZ.
A409	2	-	6-2	X	WINGS - B.F. - HORIZ.
A410	2	-	2-10	X	WINGS - B.F. - TOP - HORIZ.
A411	4	-	10-6	X	WINGS - F.F. & B.F. - TOP - HORIZ.
A412	56	-	11-0	X	WINGS - F.F. & B.F. - VERT.
A413	6	-	9-10	X	WINGS - F.F. & B.F. - VERT.
A514	18	-	11-9	X	WINGS - F.F. - HORIZ.
A415	2	-	10-8	X	WINGS - F.F. - HORIZ.
A416	2	-	7-8	X	WINGS - F.F. - HORIZ.
A417	2	-	4-4	X	WINGS - F.F. - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

BAR MARKS FOR SOUTH ABUTMENT ARE SHOWN.
LABEL AND BUNDLE NORTH ABUTMENT BARS WITH B MARK (B801 THRU B417).

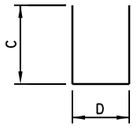


A801

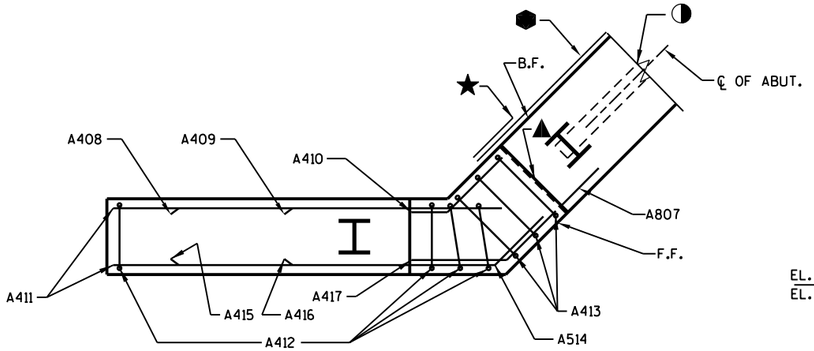


MARK	A	B
A807 A514	1'-6	45°
A408 A409 A410	1'-10	45°
A411	2'-5	14°
A415 A416 A417	2'-0	45°

A503



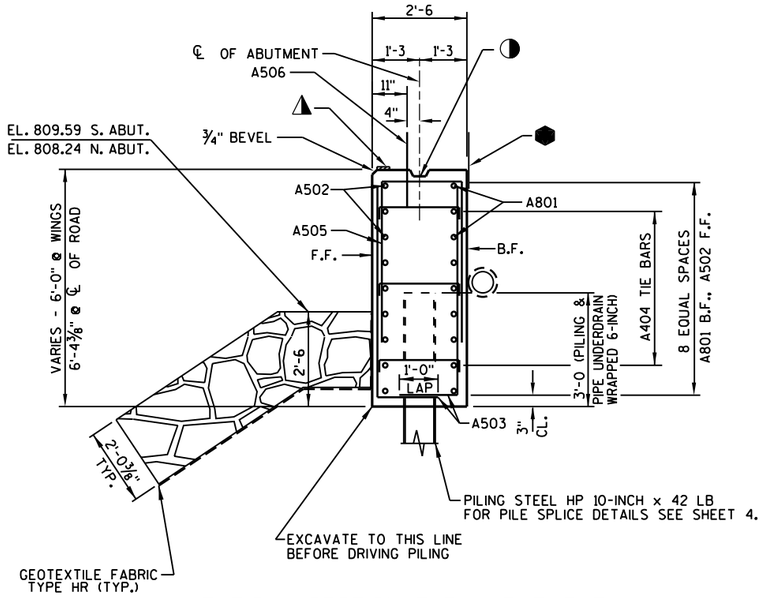
MARK	C	D
A404	4 1/2"	2'-1
A505	4'-3	2'-2
A412	4'-9	1'-8
A413	3'-11	2'-2



PLAN

SEE LEGEND ON SHEET 4 FOR DESCRIPTION OF

NOTE:
WINGS 1 & 3 SHOWN.
WINGS 2 & 4 SIMILAR.



TYPICAL SECTION THRU ABUTMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-23-170

CONST. SPEC.	DRAWN BY	PLANS CK'D.
WI "13"	RLR	DHW

ABUTMENT DETAILS

SHEET 5 OF 9
37

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239020_05.dgn 8/30/2012 12:19:59 PM rrabska

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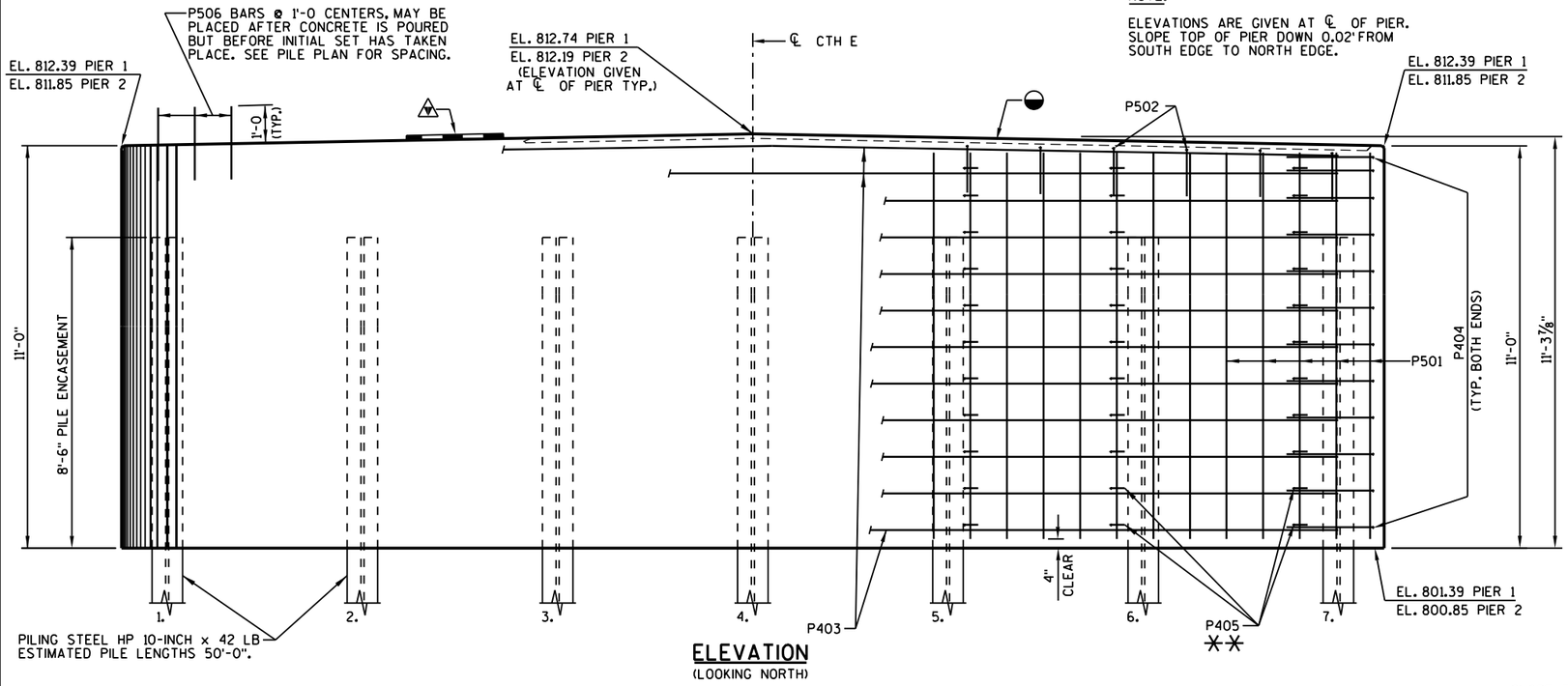
NOTE:

ELEVATIONS ARE GIVEN AT ℄ OF PIER. SLOPE TOP OF PIER DOWN 0.02' FROM SOUTH EDGE TO NORTH EDGE.



ELEVATION
(LOOKING NORTH)

BILL OF BARS (1 PIER)

COATED 70 LBS.
UNCOATED 1700 LBS.

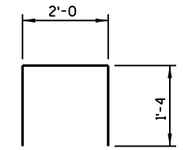
MARK	NO. REQ'D.	LENGTH	BENT	LOCATION	
P501	72	10-6		PIER SHAFT	- VERT.
P502	17	4-5	X	" STIRRUPS TOP	"
P403	26	32-0		" TOP & SIDES	- HORIZ.
P404	24	6-1	X	" AT ENDS	"
P405	77	2-8	X	" TIES	"
Ⓒ P506	33	2-0		" DOWELS @ TOP	- VERT.
P407	2	33-10		" SHAFT TOP	- HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

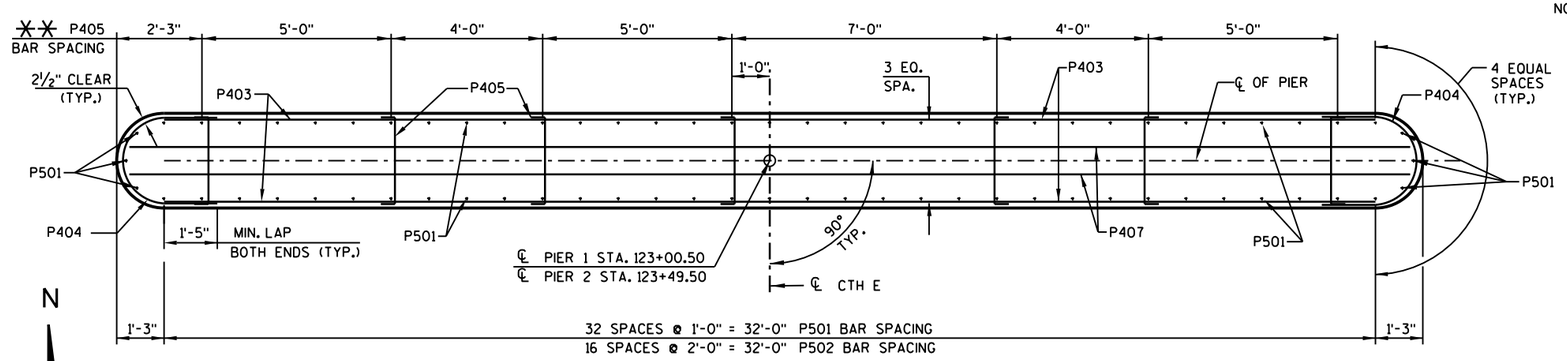
BAR MARKS FOR PIER 1 (SOUTH PIER) ARE SHOWN.

LABEL AND BUNDLE PIER 2 (NORTH PIER) BARS WITH N MARK (N501 THRU N407).

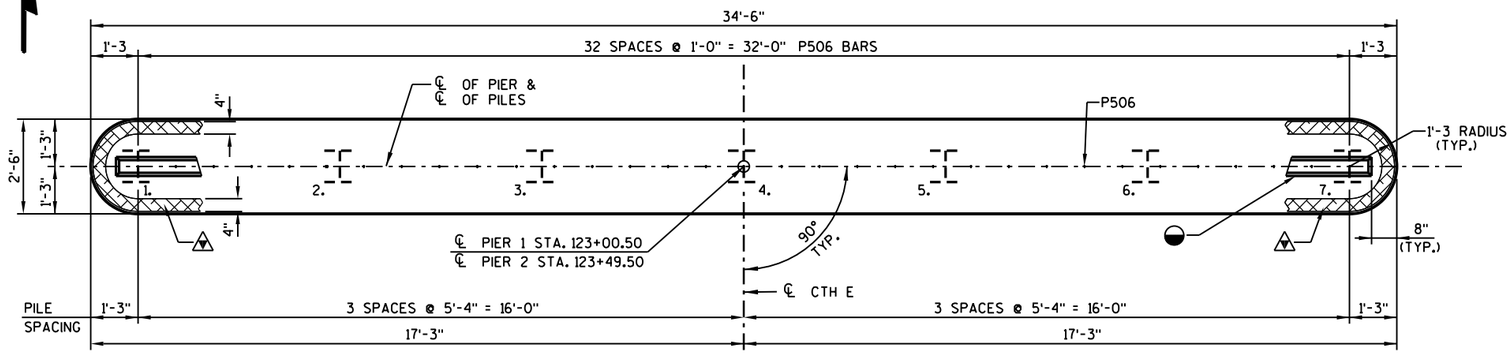
Ⓒ - THESE BARS SHALL BE EPOXY COATED.



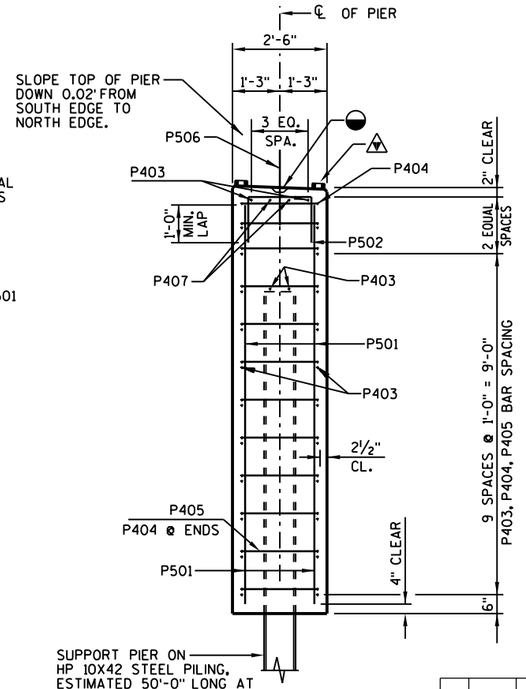
P502



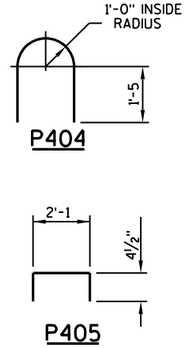
PLAN



PILE PLAN



TYPICAL SECTION THRU PIER



LEGEND

△ - 4"x 3/4" FILLER, TYPICAL ALL AROUND TOP EDGES OF PIER.

◒ - 2"x 6" BEVELED KEYWAY.

** - ADJACENT TO EACH PILE ONE SIDE ONLY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-23-170

CONST. SPEC.	DRAWN BY	PLANS CK'D.
WI "13"	RLR	DHW

PIERS

SHEET 6 OF 9
38

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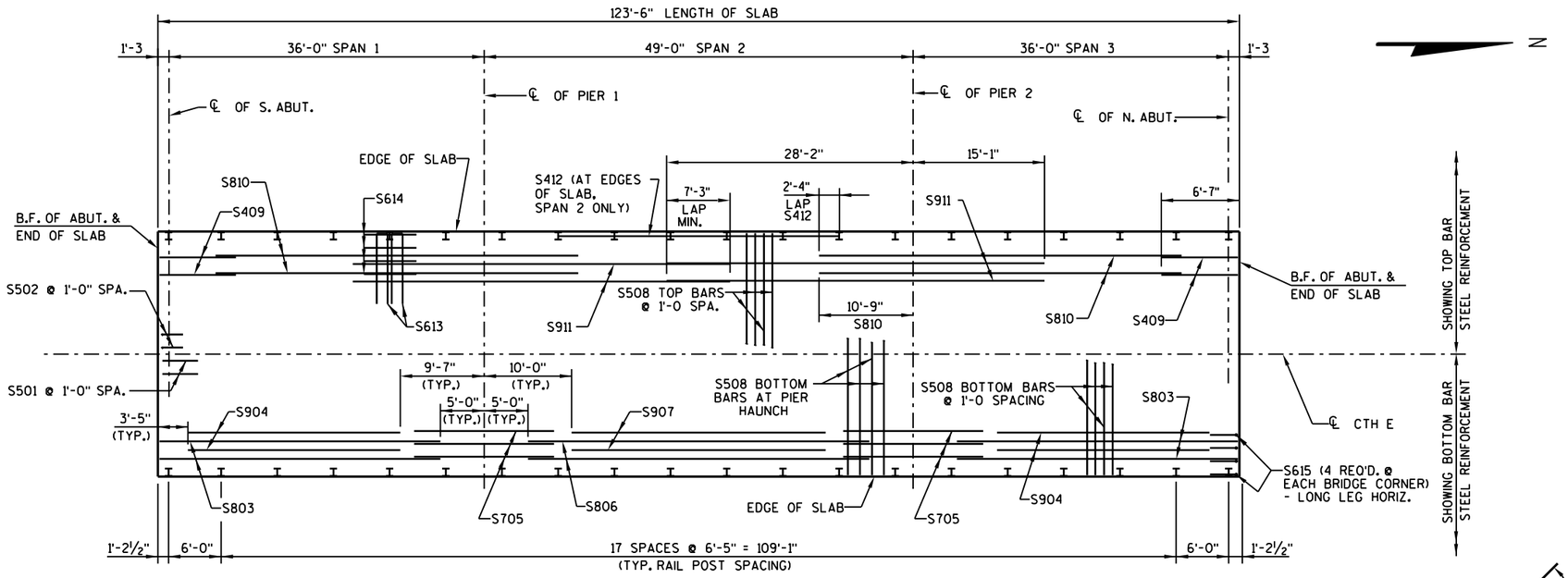


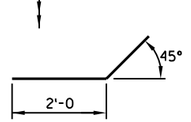
PLAN
(3 SPAN - HAUNCHED CONCRETE SLAB)

BILL OF BARS (COATED) 54,590 LBS.

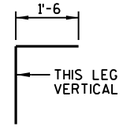
MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
S501	74	4-2	X	DIAPHRAGM @ ABUTS. - LONGIT.
S502	74	3-4	X	DIAPHRAGM @ ABUTS. - VERT.
S803	74	32-1		SLAB BOTTOM - SPANS 1 & 3 - LONGIT.
S904	72	24-3		SLAB BOTTOM - SPANS 1 & 3 - LONGIT.
S705	74	19-4	X	HAUNCH OVER PIERS - LONGIT.
S806	37	39-0		SLAB BOTTOM - SPAN 2 - LONGIT.
S907	36	29-0		SLAB BOTTOM - SPAN 2 - LONGIT.
S508	246	36-2		SLAB TOP & BOTTOM - TRANS.
S409	74	8-9		SLAB TOP - @ ABUT. - LONGIT.
S810	74	41-5		SLAB TOP - SPANS 1 & 3 AND OVER PIERS - LONGIT.
S911	72	43-3		SLAB TOP - SPAN 2 AND OVER PIERS - LONGIT.
S412	2	32-2		SLAB TOP - SPAN 2 @ EDGE OF SLAB - LONGIT.
S613	80	12-0	X	SLAB @ RAIL POST, TWO PER POST
S614	144	6-0		SLAB @ RAIL POST, FOUR PER POST
S615	16	6-0	X	SLAB @ RAIL CORNER POSTS AS NOTED

EPOXY COAT ALL SUPERSTRUCTURE BARSTEEL.

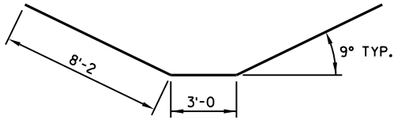
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



S501



S502



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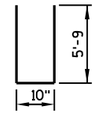
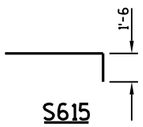
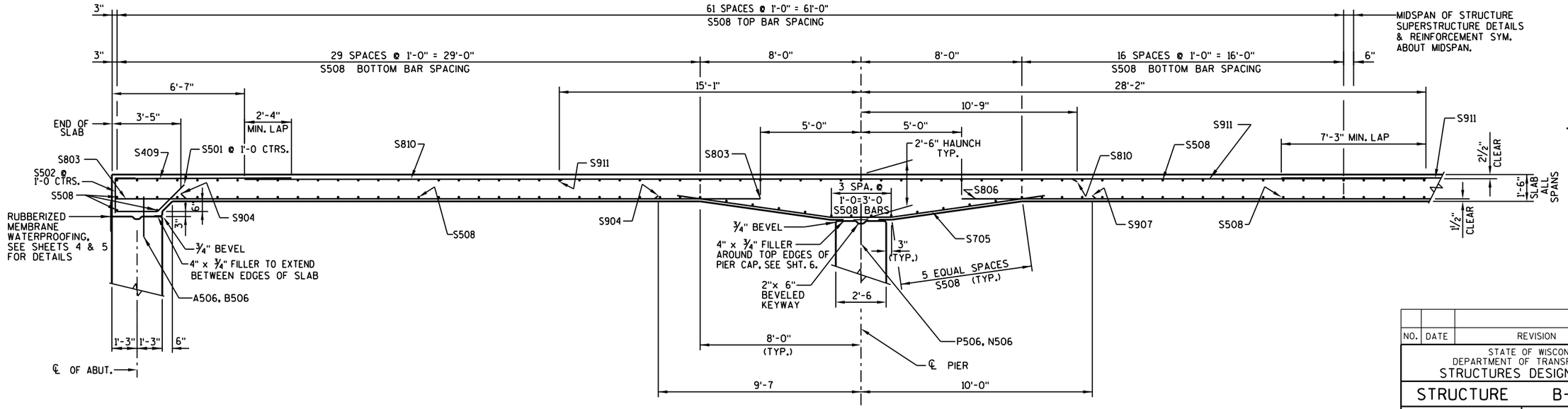


S613



S615



PART LONGITUDINAL SECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-23-170

CONST. SPEC.	DRAWN BY	PLANS CK'D.
WI "13"	RLR	DHW

SUPERSTRUCTURE

SHEET 7 OF 9
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DATE= 11/14/2012

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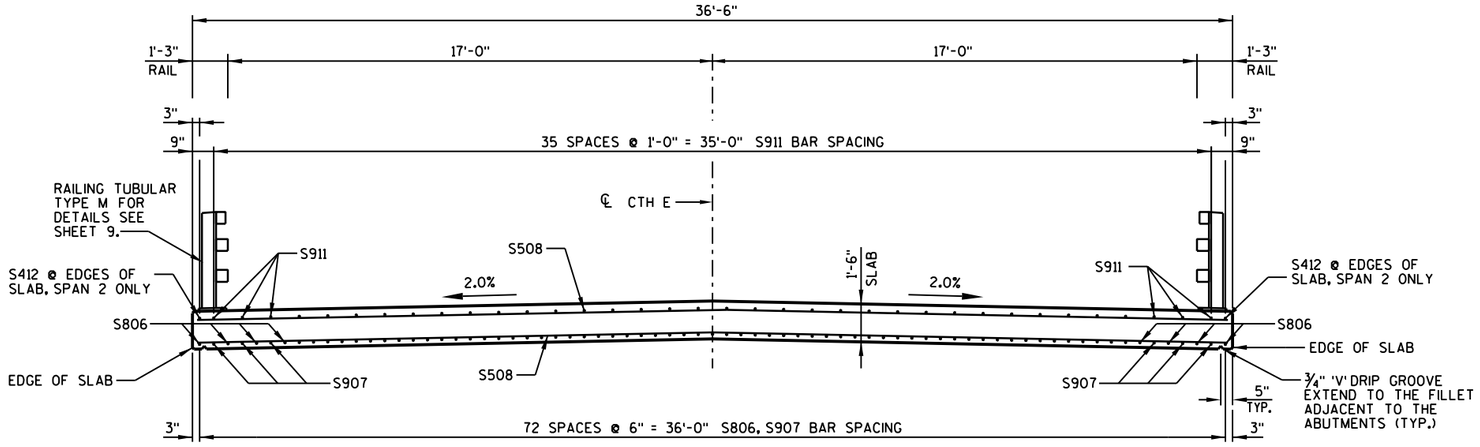
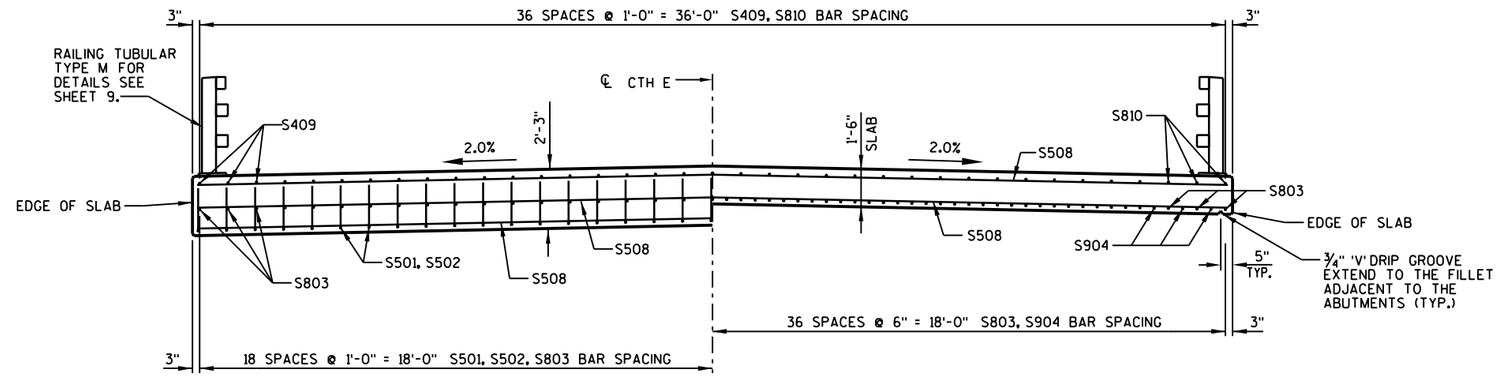
STATE PROJECT NUMBER

5605-00-72



CROSS SECTION THRU BRIDGE - SPAN 2

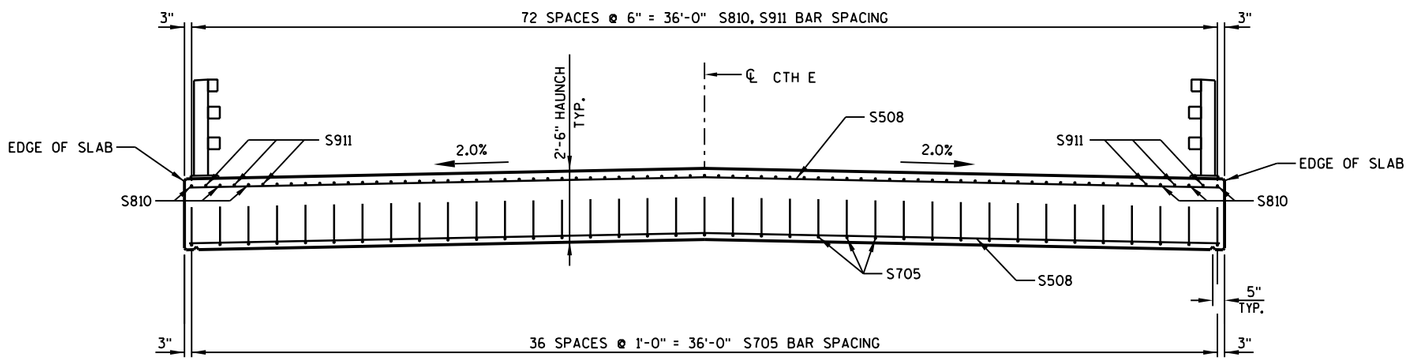
(LOOKING NORTH)



AT ABUTMENTS IN SPAN

CROSS SECTION THRU BRIDGE - SPANS 1 & 3

(LOOKING NORTH)

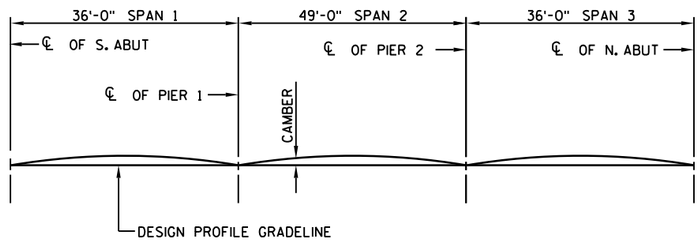


SECTION THRU BRIDGE AT PIERS

(LOOKING NORTH)

TOP OF SLAB ELEVATIONS AND CAMBER VALUES

LOCATION	EAST EDGE OF SLAB ELEV.	℄ ELEV.	WEST EDGE OF SLAB ELEV.	CAMBER VALUE (INCHES)
S. ABUT.	815.34	815.71	815.34	0
1/10	815.30	815.67	815.30	1/8
2/10	815.26	815.62	815.26	1/4
3/10	815.22	815.58	815.22	1/4
4/10	815.18	815.54	815.18	1/4
5/10	815.14	815.50	815.14	1/4
6/10	815.10	815.46	815.10	1/8
7/10	815.06	815.42	815.06	1/8
8/10	815.02	815.38	815.02	0
9/10	814.98	815.34	814.98	0
PIER 1	814.94	815.30	814.94	0
1/10	814.88	815.25	814.88	0
2/10	814.83	815.19	814.83	1/8
3/10	814.77	815.14	814.77	3/8
4/10	814.72	815.08	814.72	1/2
5/10	814.66	815.03	814.66	1/2
6/10	814.61	814.97	814.61	1/2
7/10	814.55	814.92	814.55	3/8
8/10	814.50	814.86	814.50	1/8
9/10	814.44	814.81	814.44	0
PIER 2	814.39	814.75	814.39	0
1/10	814.35	814.71	814.35	0
2/10	814.31	814.67	814.31	0
3/10	814.27	814.63	814.27	1/8
4/10	814.23	814.59	814.23	1/8
5/10	814.19	814.55	814.19	1/4
6/10	814.15	814.51	814.15	1/4
7/10	814.11	814.47	814.11	1/4
8/10	814.07	814.43	814.07	1/4
9/10	814.03	814.39	814.03	1/8
N. ABUT.	813.99	814.35	813.99	0



CAMBER DIAGRAM

GENERAL NOTES

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0 CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0 CENTERS.

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. DEAD LOAD DEFLECTION APPROXIMATES 1/3 OF CAMBER VALUES SHOWN.

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS, THE PIERS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGES OF SLAB AND CROWN OR ℄.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-23-170

CONST. SPEC.	DRAWN BY	PLANS CK'D.
WI "13"	RLR	DHW

SUPERSTRUCTURE DETAILS

SHEET 8 OF 9
40

8

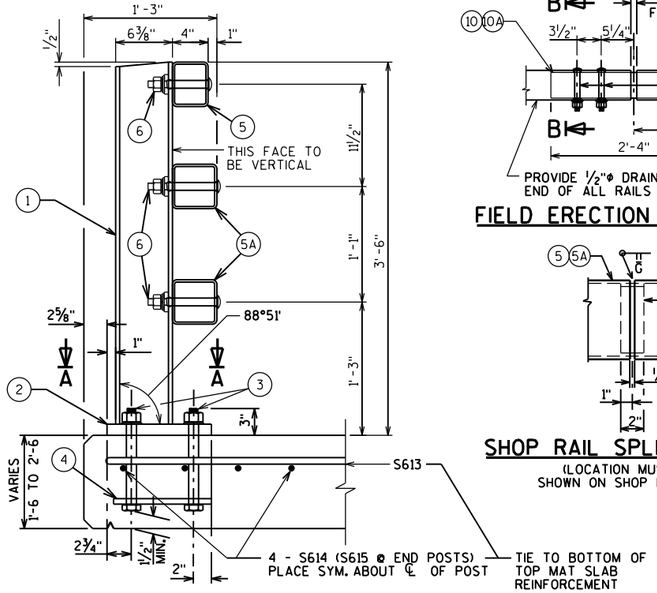
8

FILE= 239020_08.DGN
DATE= 11/14/2012

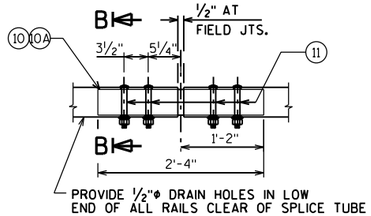
239020_08.dgn 11/14/2012 11:46:37 AM RRABSKA

STATE PROJECT NUMBER

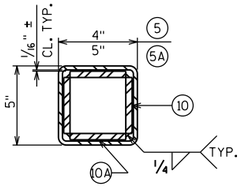
5605-00-72



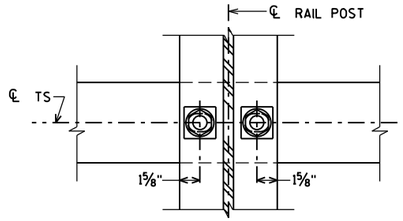
SECTION THRU RAILING ON DECK



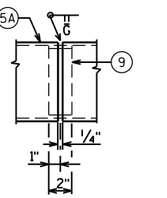
FIELD ERECTION JOINT DETAIL



SECTION B-B

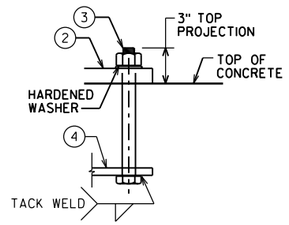


SECTION THRU POST WEB

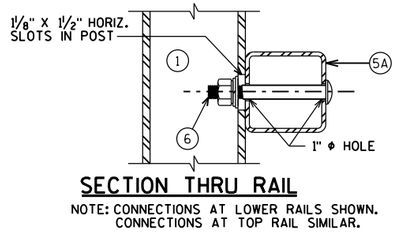


SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



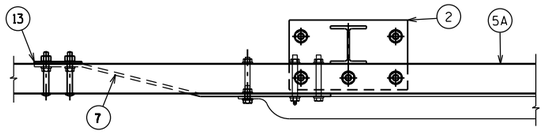
ANCHOR BOLTS



SECTION THRU RAIL

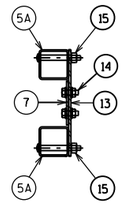
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

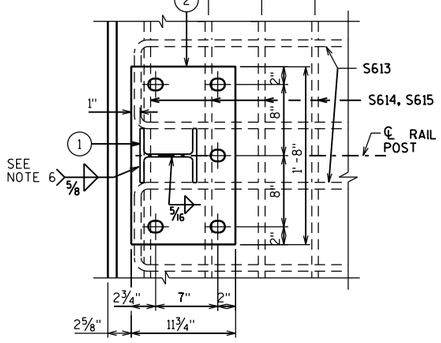


TOP VIEW AT END POST

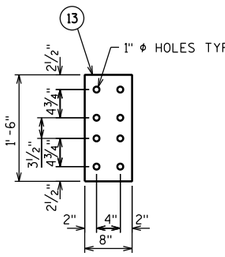
(THRIE BEAM RAIL ATTACHMENT)



SECTION C-C

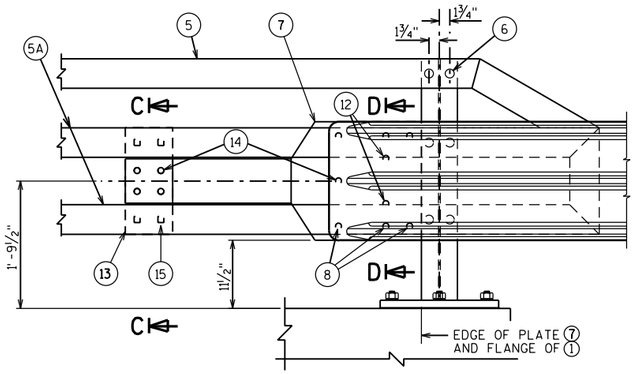


SECTION A-A



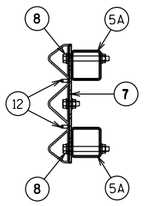
ANCHOR PLATE

AT BEAM GUARD ATTACHMENT



DETAIL AT END POST

(THRIE BEAM RAIL ATTACHMENT)



SECTION D-D

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-23-170" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
10. PAINTING IS NOT REQUIRED.
11. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).

LEGEND

① W6 x 25 WITH 1 1/8" X 1 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.

② PLATE 1 1/4" x 11 3/4" x 1'-8" WITH 1 5/16" X 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.

③ ASTM A449 - 1 1/8" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-3" LONG.

④ 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3

⑤ TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

⑤A TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

⑥ 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" X 1 5/8" X 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)

⑦ 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" X 1 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.

⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.

⑨ SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".

⑩ 3/8" X 3 5/8" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.

⑩A 3/8" X 2 5/8" X 2'-4" PLATE USED IN NO. 5, 3/8" X 3 5/8" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.

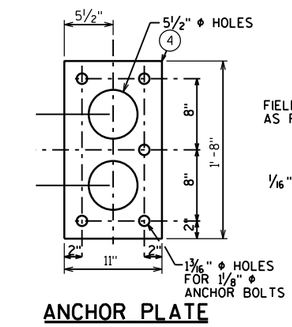
⑪ 7/8" Φ A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15/16 " X 1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS IN PLATE NO. 10A.

⑫ 7/8" DIA. X 1 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).

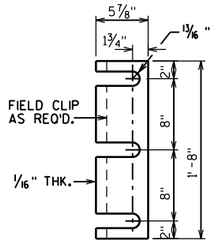
⑬ 3/8" X 8" X 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.

⑭ 7/8" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQUIRED).

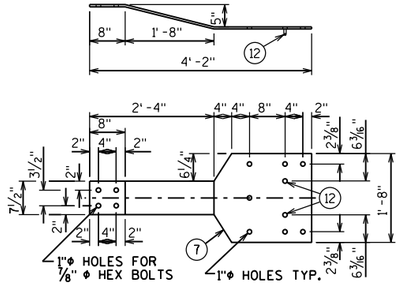
⑮ 1" Φ HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.



ANCHOR PLATE

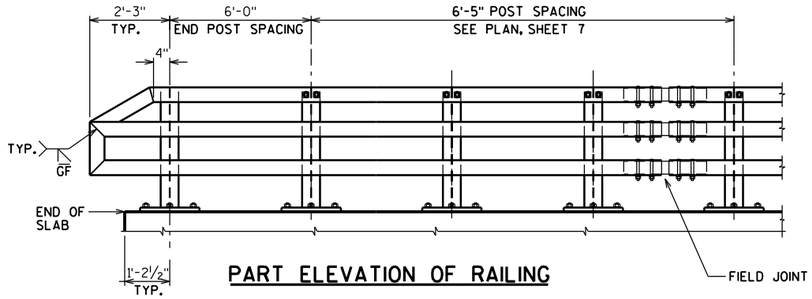


POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-23-170

CONST. SPEC.	DRAWN BY	PLANS CK'D.
WI "13"	RLR	DHW

RAILING TUBULAR TYPE M

SHEET 9 OF 9

41

FILE= 239020_09.DGN
DATE=8/30/2012

239020_09.dgn 8/30/2012 12:20:05 PM rrabska

EARTHWORK PROJECT I.D. 5605-00-72

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate Note 8
120+16	12016		17	0	0	0	0	0	0	0	0
120+76	12076	60	18	0	134	39	0	149	39	186	-147
121+36	12136	60	19	0	173	41	0	341	81	613	-532
121+56.5	12156.5	20.5	22	0	146	16	0	121	96	764	-668
121+56.5	12156.5	0	51	0	146	0	0	0	96	764	-668
121+90	12190	33.5	49	0	102	62	0	154	159	956	-798
122+02	12202	12	48	0	95	22	0	44	180	1011	-831
122+27	12227	25	49	0	34	45	0	60	225	1086	-861
122+63	12263	36	49	0	34	65	0	45	290	1142	-852
B-23-170											
						290	0	914			

EARTHWORK PROJECT I.D. 5605-00-72

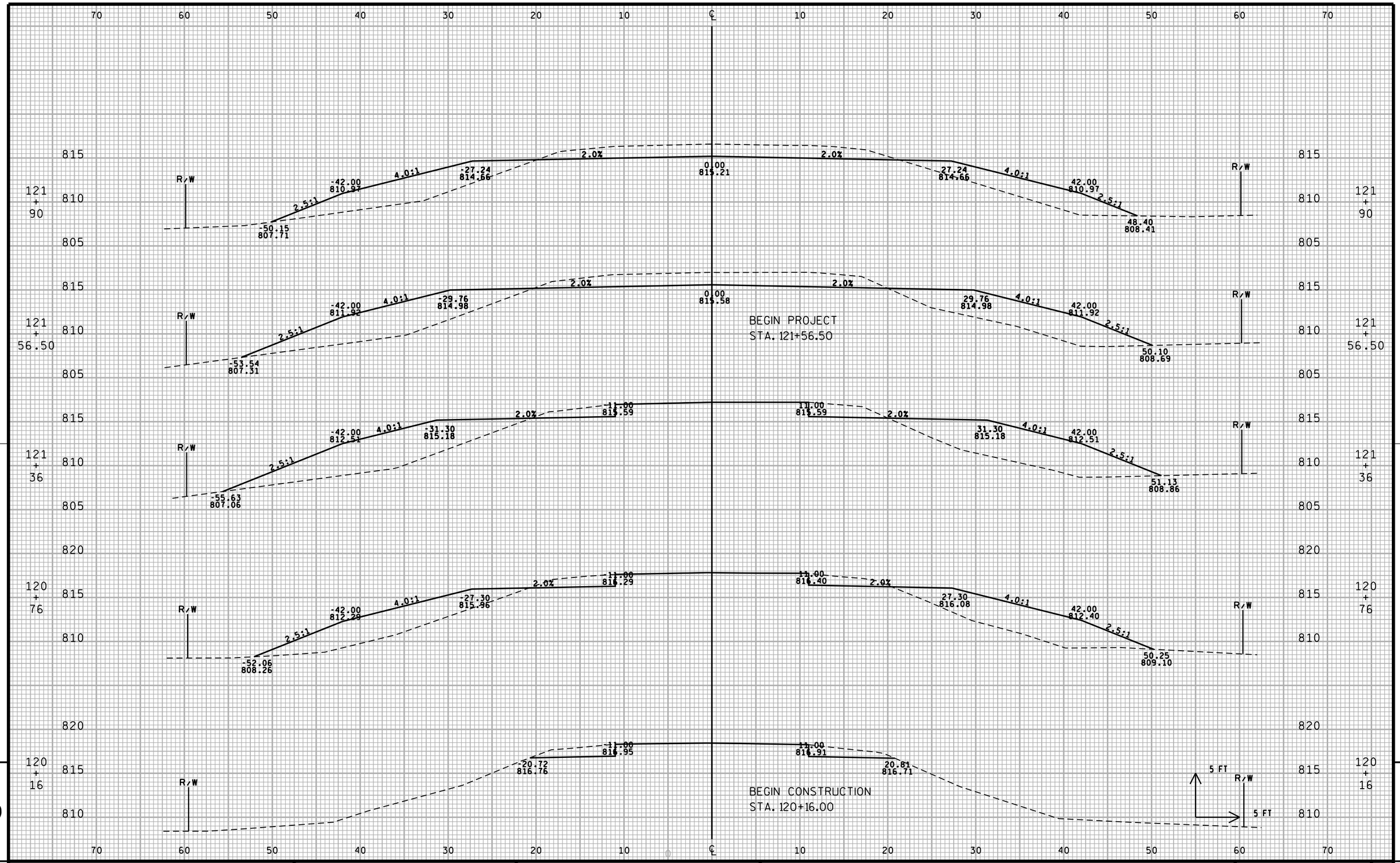
STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate Note 8
B-23-170											
123+87	12387		38	0	34	0	0	0	0	0	0
124+23	12423	36	38	0	34	51	0	45	51	57	-6
124+48	12448	25	36	0	37	34	0	33	85	98	-13
124+61	12461	13	37	0	43	18	0	19	103	122	-19
125+14	12514	53	42	0	58	78	0	99	181	246	-65
125+74	12574	60	48	0	13	100	0	79	281	344	-63
125+79	12579	5	49	0	10	9		2	290	347	-57
125+79	12579	0	20	0	10	0	0	0	281	344	-63
126+34	12634	55	20	0	0	61	0	14	351	364	-13
						351	0	291			

9

9

PROJECT NO: 5605-00-72	HWY: CTH E	COUNTY: GREEN	EARTHWORK	SHEET 42	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 49



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PROJECT NO: 5605-00-72	HWY: CTH E	COUNTY: GREEN	CROSS SECTIONS: CTH E	SHEET 43	E

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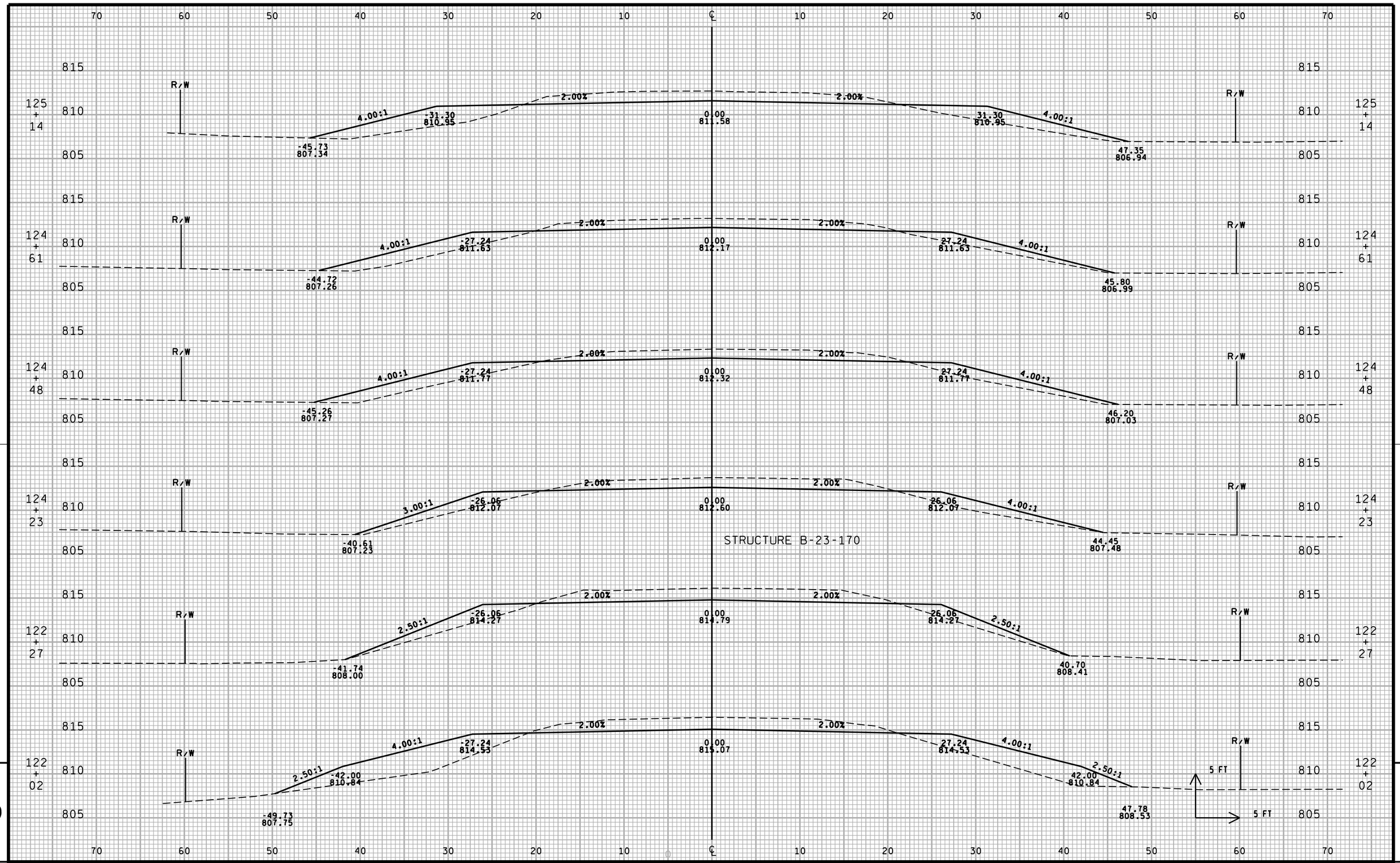
9



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PROJECT NO:5605-00-72	HWY: CTH E	COUNTY: GREEN	CROSS SECTIONS: CTH E	SHEET 44	E

70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70

815 810 805

126 + 34

END CONSTRUCTION
STA 126+34

R/W

2.00%

-23.71
809.84

-11.00
810.10

11.00
810.29

2.00%

23.60
810.04

R/W

125 + 79

END PROJECT
STA 125+79

R/W

4.00:1

2.00%

-26.90
810.29

0.00
810.83

2.00%

4.00:1

26.90
810.29

R/W

-36.70
807.85

32.73
808.84

125 + 74

R/W

4.00:1

2.00%

-27.30
810.36

0.00
810.90

2.00%

4.00:1

27.30
810.36

R/W

5 FT

5 FT

-37.85
807.72

34.16
808.64

9

9

PROJECT NO: 5605-00-72	HWY: CTH E	COUNTY: GREEN	CROSS SECTIONS: CTH E	SHEET 45	E

Wisconsin Department of Transportation

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